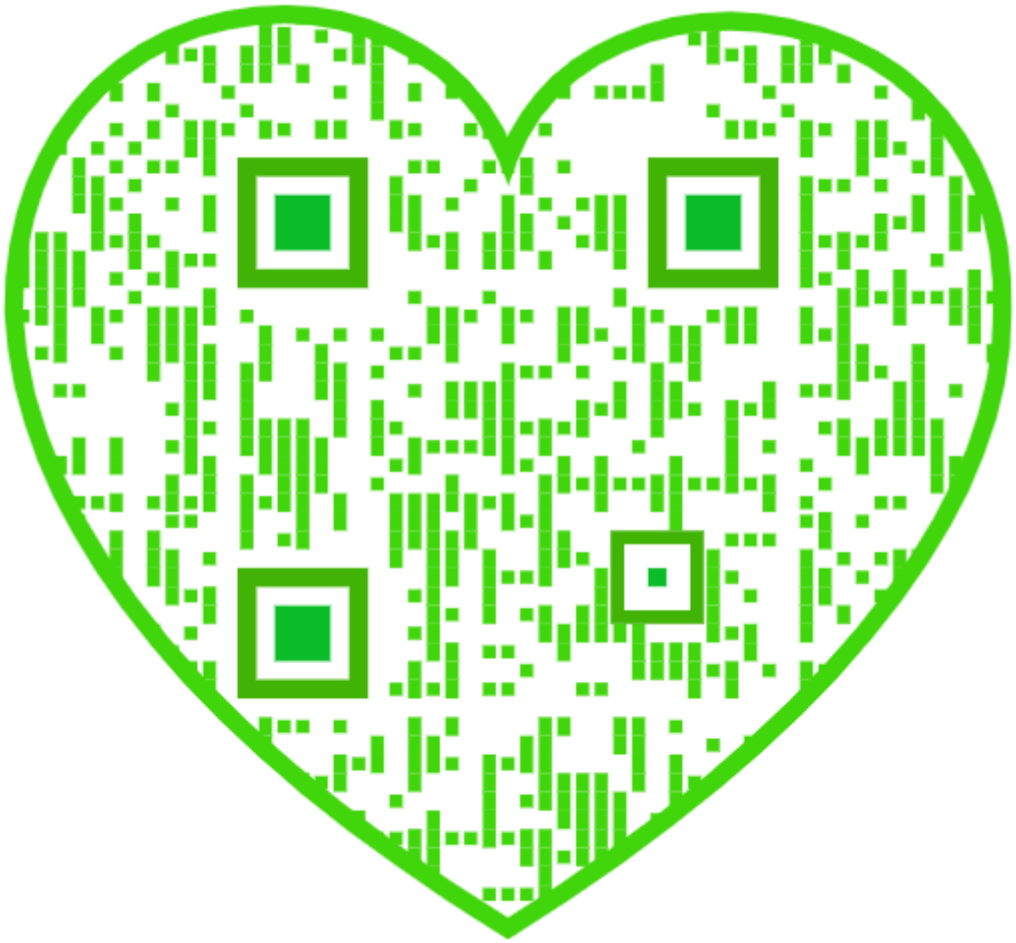

THE ARCHITECT AND ENGINEER

OCTOBER 1936

HARMONIOUS DESIGN

plus

TAN PLASTIC

equals

This Pleasing Effect

Residence of J. J. Hallenbeck, Requa Road, Piedmont, Califo
Noble Newsom & Archie T. Newsom, Architects

This residence is of a semi-formal French design, planned around a protected paved court, which faces the best sun of the day and leads out directly into a garden development of hedges, pergola and fountain.

The roof is of slate in varied colors of deep sea green, purples, and gray tans. Walls are of light buff stucco. A drive leads into a large paved auto court, which is really a second entrance to the house, with the reception hall extending through the entire plan to connect with the front door. This hall also opens onto the garden court.

The interiors follow the French period. There is a library paneled entirely of wood, a stair of wrought iron and brass, and a high ceiling living room finished in soft pastel shades of pale gray-green and putty. A children's social hall is in one wing and is much more informal in design, with a high cathedral ceiling of wood. It opens into a play yard with a small pool of filtered water.

"Smooth texture and pleasing color led us to specify Golden Gate Tan Plastic cement for this home. Its use has not only proven satisfactory in the retaining walls around the gardens but in the foundation and swimming pool as well."

[Signed] Noble Newsom and
Archie T. Newsom, Architects

Leading Architects specify it.
Competent Builders use it.
Reliable Dealers handle it.

RIGHTLY USED IT NEVER DISAPPOINTS

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THE ARCHITECT AND ENGINEER

Presents for October 1936

Cover

DEL MONTE HOTEL, DEL MONTE, CALIFORNIA
Louis P. Hobart and Clarence A. Tantau, Architects

Frontispiece

RESIDENCE OF R. F. D. LEMON, PIEDMONT PINES, OAKLAND
Frederick L. Confer, Architect

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Notes and Comments

AMERICA'S Main Street needs its face scrubbed, according to a recent study by the Department of Commerce which indicated that more than half of the retail stores and service establishments in the country should be modernized in one way or another. Approximately 8000 small and medium-sized stores in 23 cities were analyzed from the standpoint of physical condition and appearance. While a majority of the stores inspected were in the Western part of the United States the cities were selected on a sampling basis and are consequently believed to reflect general conditions throughout other regions of the country.

In this cross-section analysis, it was found that apparel shops are in the best condition of all groups, both in exterior and interior appearance, but even a third of such stores should be improved and modernized. Drycleaning, pressing, and shoe-repair shops received the lowest rating, nearly three-fourths being termed "fair" or "poor" as regards appearance. Opportunities for improving grocery stores were also recorded as very great.

From this data it appears that, while retail shop modernization has progressed considerably during the past two or three years, there remains nevertheless a tremendous demand for modernization.

* * *

JOSEPH Hudnut, dean of architecture at Harvard, pointed an accusing finger recently at what he called "hocus pocus" in architectural education.

"Students of architecture should not design buildings which they cannot build," he said.

"Our architecture has lost its vitality, its power to command our imagination and to interpret our civilization. What is needed is some integration of these two elements in our art."

He blamed the Paris influence in a paper prepared for the American Institute of Architects.

"Hocus pocus is especially prevalent in that quaint activity which we call architectural education.

"For example, in New York City, the processes of architectural education are controlled by a most enthusiastic society of architects who have imported from Paris a collection of ingenious conceits and from these have constructed a facade of convention so formidable that no one has ever dared to ask what it is all about.

"And yet the actual education technic of this group consists in eating a good dinner once every six weeks. After this dinner, between cognac at 9 and a glass of beer at midnight 400 architectural awards are made.

"These awards are made for what are called designs for buildings' but which have been developed under a set of rules so written as to divorce the designer as far as possible from any conditions that conceivably might govern the practice of architecture; . . . it occasions not the least surprise to learn that scarcely one of the competitors could build even a part of the structure that he has designed."

* * *

THE new centralized system of design for Federal buildings is not favored by many architects throughout the country because it eliminates the employment of individual or "home town" architects. The New Deal set-up Treasury Department officials say, places responsibility for good design and construction where it belongs—with the Government.

Does this centralized bureau of the Treasury Department, under the guise of Supervising Architect, accomplish anything that the architects in private practice could not and did not accomplish prior to this injection of bureaucracy into architecture? The chief purpose of the central bureau "is to produce buildings, whatever their scale, which fit into the modern picture, urban or rural, with no lack of variety; yet which in each case bear the distinct and distinguished stamp of a government building," if we are to believe H. I. Brock in the New York Times. This was something that was not generally achieved under the old system with "its tendencies, outside of a few important buildings, to makeshift and haphazard designs, often reflecting vagaries or lapses of taste in local architects assigned to a very special task with very special requirements."

Will the new system stand the acid test of public approval? Will it satisfy the demands of an American architecture in keeping with the growing inclinations of the public for more permanent public buildings of distinctive types as models for privately constructed structures?

America was not raised to heights of greatness by bureaucracy and if the practicing architects are deprived of the rights to design public buildings, architecture will suffer.

* * *

IT will be no fault of the architects of Oregon if good does not come of the recent State Capitol Competition. Some one has said that there is yet to be a perfect architectural competition. Always there is the disgruntled entrant who thinks his effort so much better than the prize design. That attitude is natural, tho not always justified. It is the difference of opinion that makes the world go round. This difference is bound to develop in a competition like the one in Oregon, not only as it applies to the jury but as it appears to the participant and as it impresses the layman. Without a thorough understanding of the program one may easily go wrong in attempting to make a final analysis of a design. On the other hand, those who may have studied and weighed carefully the requirements and who complied with them in every detail are entitled to be heard and their conclusions should be of value.

In the case of the Oregon competition the fault was with the program itself, not with the way it was followed. While the program was supposed to have been approved by the A.I.A. Sub-Committee it develops that the committee actually approved only a part of it. It would be interesting to know just what part of the program this committee okehed.

Some of the contestants have referred to the program as a jig-saw puzzle. Others have found fault with facing the building to the north. Some think the jury should have been announced in advance, etc., etc.

Ellis F. Lawrence, a prominent Portland architect, says he entered the competition "for the fun of it". He writes he is not a bit sore and feels that the successful entrants really solved the problem. The building itself will tell whether the competition was a real success or failure.

In the meantime Mr. Lawrence would strengthen the Institute code for future contests of this kind along the following lines:

1. Approval of program in toto (not in part) by the Institute sub-committee.

2. Competitors should be given freedom to create as they desire.

3. The winner should be guaranteed adequate compensation.

4. The duties of the advisor should be more clearly stated in the competition code.

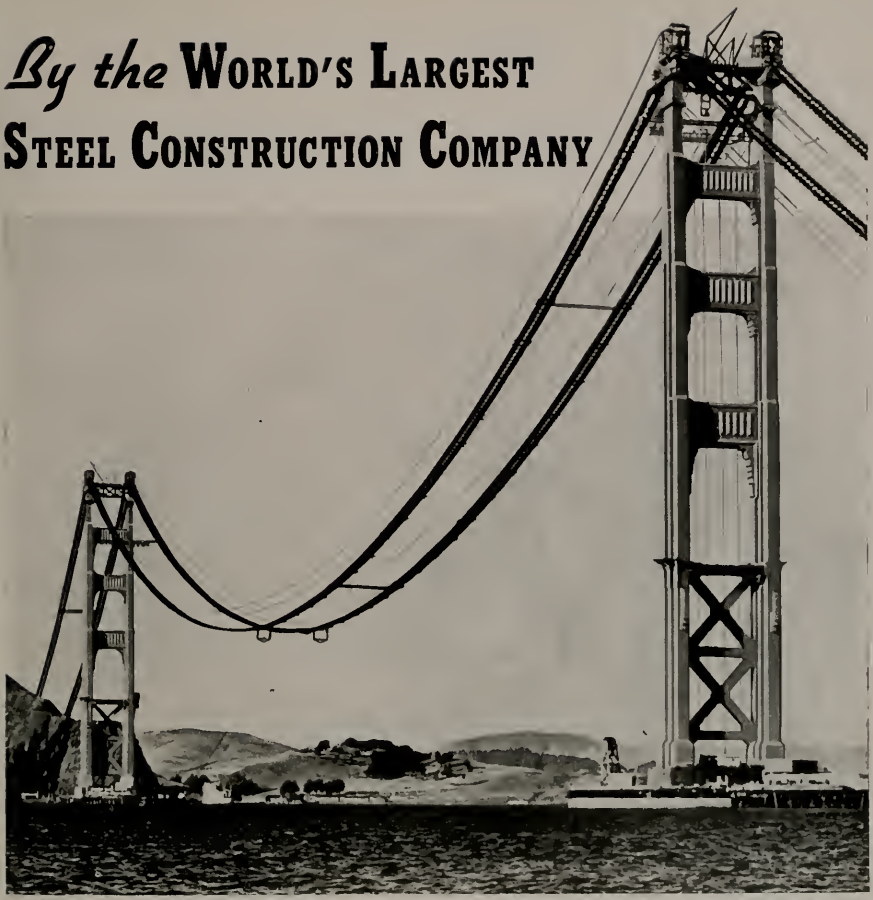
5. The majority of the jury should be architects.

6. The personnel of the jury should be made known in the program.

7. All designs should be shown to the public and the competitors given a full report by the jury.

As a further aftermath of the competition **The Architect and Engineer** will publish more of the designs in next month's issue, with an article "In Retrospect" by Roi L. Merin, architect, of Portland.

By the WORLD'S LARGEST STEEL CONSTRUCTION COMPANY



THE GOLDEN GATE BRIDGE, for which Bethlehem is fabricating and erecting the towers and the main span, is but one of the major achievements of Bethlehem in the field of steel construction.

Bethlehem Steel Company is today the largest steel construction organization in the world. Combining the facilities of McClintic-Marshall, formerly operated as a Bethlehem subsidiary, with other Bethlehem facilities, this company leads all other concerns in its fabricating capacity.

In every field of steel construction—Bethlehem can point to a long record of achievement.

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RESIDENCE OF R. F. D. LEMON, PIEDMONT PINES, OAKLAND, CALIFORNIA
FREDERICK L. CONFER, ARCHITECT
THOMAS D. CHURCH, LANDSCAPE ARCHITECT

HOMES—THEY ARE BUILDING THEM NOW

by Harris C. Allen, A. I. A.

NO MANSIONS—JUST PLAIN LIVABLE ABODES

Examples here reflect a pleasant domestic quality, simplicity of treatment and freshness.

As the pace of home building activity quickens, it is interesting to note the trend toward simplicity, and away from the extremes of formality, unconventionality, or experiment.

It is obvious, and natural, that the cost element is an important factor. The day of great mansions, private palaces, rococo ornamentation, appears to be past. But the change goes deeper than that. Different ways of living need different environments.

Is it not likely that a reaction from the

ARCHITECTS WHOSE WORK IS SHOWN ARE:

Frederick L. Confer
Clarence A. Tantau
William Wilson Wurster
Gardner A. Dailey
John K. Branner
Hibbard, Gerity & Kerton

GARDEN VIEW, RESIDENCE OF R. F. D. LEMON, PIEDMONT PINES, OAKLAND
Frederick L. Confer, Architect

LIVING ROOM, RESIDENCE OF R. F. D. LEMON, PIEDMONT PINES, OAKLAND
Frederick L. Confer, Architect

DINING ROOM

STUDY, RESIDENCE OF R. F. D. LEMON, PIEDMONT PINES, OAKLAND
Frederick L. Confer, Architect

TERRACE VIEW, HOUSE FOR PHILIP NEILL, WOODSIDE, CALIFORNIA
Clarence A. Tantau, Architect

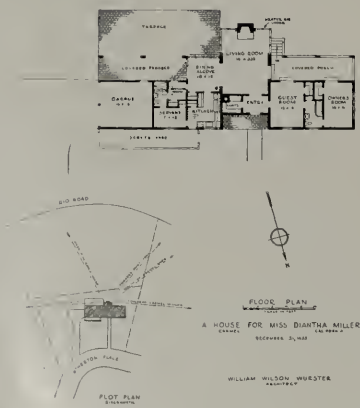
strenuous years of excitement, depression, worry, has enhanced the attractions of simple home life? We have been through a hectic time—and the future looks none too certain—but at least we are having a "breathing spell." Figuratively speaking, we wish to relax and rest our tired nerves and recreate our exhausted energies. This process does not require the retiring to a cloistered seclusion, but it does involve a setting that is pleasant but unobtrusive; neither exciting nor depressing; conducive to an atmosphere of normal, wholesome living.

As far as architects are concerned in meeting these conditions, it may truthfully be said that the profession (to a considerable extent) has been stimulated into more logical thinking, into clearer vision, than has prevailed for a very long time—certainly, several generations; perhaps a century or two. Dealing with

WEST ELEVATION, HOUSE FOR PHILIP NEILL, WOODSIDE, CALIFORNIA
Clarence A. Tantau, Architect

Photo by Roger Sturtevant

SUMMER HOUSE FOR MISS DIANTHA MILLER, CARMEL, CALIFORNIA
William Wilson Wurster, Architect



PLAN, SUMMER HOUSE FOR MISS DIANTHA MILLER, CARMEL, CALIFORNIA
William Wilson Wurster, Architect

Photo by Roger Sturtevant

INTERIOR SUMMER HOUSE FOR MISS DIANTHA MILLER, CARMEL, CALIFORNIA
William Wilson Wurster, Architect

STUDY FOR RESIDENCE
Clarence A. Tantau, Architect

GARDEN VIEW, RESIDENCE OF CLARENCE A. TANTAU, BERKELEY
CLARENCE A. TANTAU, ARCHITECT

DETAIL OF FACADE, RESIDENCE OF E. M. MANNING, PALO ALTO

GARDNER A. DAILEY, ARCHITECT

Photo by Roger Sturtevant

RESIDENCE IN WOODSIDE, CALIFORNIA
Gardner A. Dailey, Architect

STAIR HALL.
RESIDENCE IN WOODSIDE, CALIFORNIA
Gardner A. Dailey, Architect

the smaller problems will be good training for solving the bigger ones, when they come.

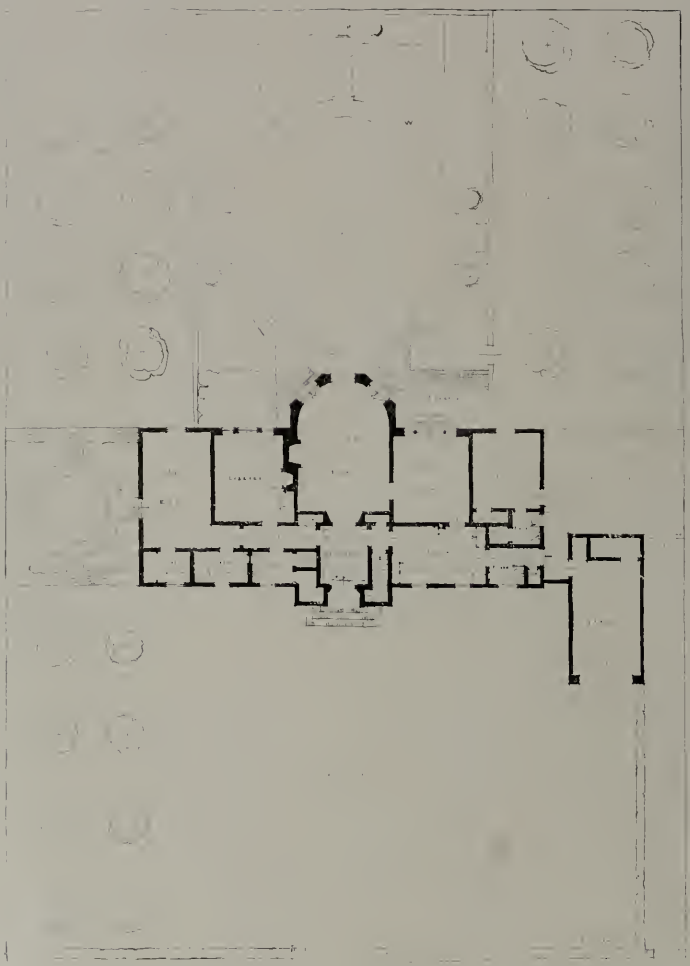
Many of the dwellings that are springing up now are achieving this domestic atmosphere, and along with their effortless simplicity they frequently attain a definite character of individuality and charm. Even many of the speculative builders' houses-for-sale are less banal or bizarre; if they are indeed echoes of some architect's creation, they are at least not such debased and disfigured echoes as of yore.

The homes published in this issue of The Architect & Engineer illustrate the point in varying ways and degrees. Each shows a simplicity of treatment, a pleasant domestic quality, and withal a firm grasp of the architectonic principles of mass and line, of proportion and balance, of solids and voids, of scale and of substance.

One of the youngest of our architects, Frederick Confer, has already found himself, and every new example of his work is evidence of a surer control of design. There is a fresh vitality to his work, both in mass and detail. In fact, his handling of detail is almost amazing in its verve and versatility.

William Wurster's house here shown is, like all his work, logical, straight-forward, interesting. This one is particularly happy in the fit-

RESIDENCE IN WOODSIDE, CALIFORNIA
Gardner A. Dailey, Architect



GROUND PLAN, RESIDENCE OF JACK SELLARDS,
STANFORD UNIVERSITY, PALO ALTO, CALIFORNIA

JOHN K. BRANNER, ARCHITECT

Photo by Crandall

RESIDENCE OF JACK SELLARDS, STANFORD UNIVERSITY, PALO ALTO

JOHN K. BRANNER, ARCHITECT

LIVING ROOM, RESIDENCE OF JACK SELLARDS, STANFORD UNIVERSITY, PALO ALTO, CALIFORNIA
John K. Branner, Architect

ting of design to site. The plan is well studied —and a small plan is not easy to work out.

Hibbard, Gerity and Kerton have used a new type of construction in a picturesque French Provincial country house. Walls are of thick stone tile, with reinforced concrete columns and girders and a reinforced, cantilevered, cast stone circular staircase. A few years' weathering, and the growth of planting, will make this house a very pleasant place in which to live.

The glimpses shown of houses by John Branner, Gardner Dailey and Clarence Tantau, all carry out the same impression of substantial domestic feeling, quiet dignity, architectural design that is conservative but not stereotyped. These are men of tried calibre and they are keeping up their standards. Mr. Tantau's sketches for a country house are purely delightful—nor is this due just to the clever draftsmanship.

With the clear prospect of increasing activity for some time ahead, our Californian architects can be depended on to make a good showing for themselves—and a lot of happy homes for Californian families.

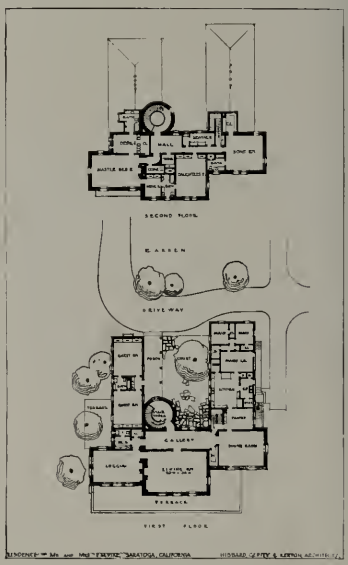
Photo by Mott Studios

HOUSE OF MR. AND MRS. P. M. PIKE, SARATOGA, CALIFORNIA

HIBBARD, GERITY & KERTON, ARCHITECTS

GUEST HOUSE, ESTATE OF MR. AND MRS. P. M. PIKE, SARATOGA
HIBBARD, GERITY & KERTON, ARCHITECTS

STAIR HALL, HOUSE OF MR. AND MRS. P. M. PIKE, SARATOGA
Hibbard, Gerity & Kerton, Architects



STATE ASSOCIATION, CALIFORNIA ARCHITECTS

A MESSAGE OF OPTIMISM FROM THE PRESIDENT

By L. H. Hibbard

OUR observations may be obscure as to the future of architecture and perhaps it will be of little benefit to meditate upon the past. History does not record a professional entourage in a continuous and direct line of thought and action.

"The Battle of the Styles" has waged an endless chain of extenuating circumstances wherein before a building that was under construction and before it could be completed the style had so changed as to influence a change in the design of the edifice, blending from one style to another. The thought did not occur, perhaps before time, to "face-lift" the building and bring the old into harmony with the new. It would have been most unfortunate for the history of architecture if this had happened.

Today there is such an eagerness to do away with the old and substitute the new that sometimes a commendable piece of architecture, under our modern facilities for doing construction, undergoes startling changes which must resist the test of time as to its acceptability.

The situation is by no means distressing, it is rather a comedy on functionalism. Perhaps at no time in the world's history have changes come with such suddenness abruptly to shape our course of events. Concern does not come from the changes that are being brought about but in the manner in which they have and may be accomplished. The striving for the unusual thing and the way in which they take form might imply replacements on such a vast scale as to render impotent America's traditional architectural past.

The swift trend of thought seems to give distortion to our general architectural atmosphere. It is reflected in architectural magazines, in the daily press, organized society and in public utterances. It is not so much the displacement of our architectural achievements as the unbalancing of our architectural conceptions. Not all are imbued with modernistic tendencies. They accept it as a matter of business, a means to a livelihood, an irresistible tendency to swing along with the times.

There is one thing certain: As long as there is civilization there will be building and the art of building will be architecture. The practice of architecture may vary and its poise will be determined by collective thought concentrated in organized endeavor. The American Institute of Architects, through its Chapters and affiliated State Societies, seeks to determine the correct policy. That policy should not be swayed by diversified opinion or sectional reaction: let it be our master to guide us through; let collective thinking be the order of the day, which cannot help but determine the future. That future should not and cannot be retrogression, for over it all stands the march of progress, so embracing as to sink to oblivion any attempt to destroy the beautiful things of our National existence.

DETAIL, SHOWING DECORATIVE TILE PANEL "THE LANDING OF SEBASTIAN VISCAINO AT MONTEREY," POST OFFICE BUILDING, MONTEREY, CALIFORNIA

W. O. RAIGUEL, ARCHITECT

UNITED STATES POST OFFICE BUILDING, MONTEREY
W. O. Raiguel, Architect

TIMES CHANGE ARCHITECTURAL STYLE

SITUATION TERMED "COMEDY ON FUNCTIONALISM"

By Robert H. Orr, A. I. A.

"E Pluribus Unum." An age-old motto which the average Architect refuses to comprehend. Instead he takes his motto from the opposite side of our national coin—"In God We Trust." No one can criticize such a principle but some sage of the past expressed the opinion that "God helps those who help themselves." The record, as the candidate would claim, seems to bear out the latter sentiment.

The State Association of California Architects is the one vehicle by which our national motto can be made effective for the architectural profession of this State. Its constitution and by-laws are actually so drawn that every architect in the State of California is included in its membership. The Association, as a professional organization, truly exemplifies our national motto so far as its organization, aims and objects are concerned. Here the picture ends for the simple reason that the individual architect will not or can not see the necessity of actively associating himself with other members of his profession, neither for his own advancement nor the protection of his own interests.

It is only when he becomes alarmed because of some proposed legislative program or because of outside encroachment in his field of activity which may affect his pocketbook, that he becomes conscious of the State Association of California Architects. Then he wants help

and action regardless of whether he has taken an active interest in his organization or lent his moral and financial support. The result is often disappointing to the individual architect, the officers and directors of the Association and the profession as a whole. No group can be strong and accomplish its objects unless it is equipped with the sinews of war. For a professional organization these consist of the active and continued interest of the individual members of the profession, their constant financial support, their willingness to devote their time and to actually work when assigned a task in the interest of the profession or the public.

This is a rapidly changing world. The rate of change seems to have been greatly accelerated in recent years. These changes have not been confined solely to science and industry, nor to materials and methods of construction. The political complexion of the world is hardly recognizable to those who knew it twenty years ago. New leaders have arisen who have changed the outlook and viewpoint of entire populations. Government is no longer simply a matter of governing. It has assumed, whether for better or worse, social, paternal and regulatory powers that our forefathers would have fought against rather than to have meekly submitted.

These changes affect businesses and professions. Those affected most are those least prepared to manage their own affairs. Those whose strength and organization are so weak that they cannot present a united front, in opposing movements detrimental to their interests nor in supporting policies that would be beneficial, will sooner or later discover that other groups have prevailed over them. This is not only true of businesses and professions but is increasingly true in matters of public policy where every citizen has an interest. The world is full of present day examples of organized minorities which have forced their will upon great unorganized majorities.

The officers and directors of the Association believe that the architectural profession has the resources to equip itself with the sinews of war. Not alone for defensive purposes but offensively for the advancement of the profession of architecture and to actively take an interest in worth while community and public affairs. The architect, by training and experience, is a planner and coordinator. These talents should be exercised in the interests of his own profession before some other group steps in and plans the architects' destiny.

Those loyal ones who have been entrusted, as officers and directors of the State Association of California Architects, with its guidance during the past year, ask for the future officers and directors the active support and interest of every architect in the State. An organization's strength is derived from its membership, not from its officers and directors. Furnish your representatives with your active support and help your Association to be an asset to the profession and to the State.

RARY
L DEPT.

BRIEF REVIEW OF YEAR'S ACTIVITIES

STATE ASSOCIATION GREAT HELP TO PROFESSION

By William I. Garren

ANOTHER year in the life of the leading State Association is about completed.

We can look over the work that has been done with great satisfaction. In the North we have affected an excellent new accounting system under our treasurer, Otto Hintermann and show a healthy financial condition with no debt.

After many months of negotiations, carried on through the splendid leadership of Harry Michelson, we have affected a new agreement for the operation of Architects' Reports through The Architect and Engineer. This new agreement with one of the oldest architectural publications on the Pacific Coast has been in effect since June of this year; it has meant increased revenue for the Association. It has brought about a larger and more valuable daily report service for the industry. Today The Architect and Engineer, Architects' Reports published with the cooperation of the architects in Northern California, is the largest and most comprehensive report service in the West and comparable to a similar report service which the Southwest Builder publishes jointly with the Southern section.

Many of our district societies have had regular meetings, have discussed their local problems, have cooperated with their local public authorities, and have bettered the conditions of the architects. Outstanding progress is shown in Sacramento, Stockton, and San Francisco.

The State Association office at 557 Market Street, San Francsco, has been maintained continuously with a stenographer in charge and managed by Ellsworth Johnson, our secretary.

The Association has, with active representatives, carried on continuously during the year a close cooperation with the building industry; including the Associated General Contractors, the Producers Council and the Civil and Structural Engineers, through a committee known as the Building Industry Conference. Ths committee has also had the cooperation of the State Chamber of Commerce through Mr. Charles Knight, its secretary, and has also been aided by the enthusiastic assistance of Mr. William Hague, Secretary of Northern California Chapter of A. G. C.

On the Field & Riley Act a committee headed by John J. Donovan and with Walter Steilberg and Harold Weeks as members, has met with the Governor's Interim Committee on these acts and has done some valuable work toward assisting in the administration of the Field and Riley Act.

During the year the Association has been continuously working with the State Board of Architectural Examiners who have engaged in a thorough study, looking toward certain corrections in the Architects' Practice Act. At the last state wide meeting of the State Chamber

of Commerce in Fresno in September the program for this legislation was submitted and in a general way received the approval of the building industry group. Frederick H. Meyer has worked through the year in the North on the preparation of these corrections to our practice act. This plan has the approval in principle of the State Chamber of Commerce Legislative Committee.

The Association office has functioned as a clearing house for the employment of draftsmen and many architects and draftsmen use the office to bring together their mutual needs for help or for the offering of services.

The Association was represented at the national convention and secured committment by resolution of the A.I.A. to appoint a committee to study and report back at the 1937 convention revisions in the constitution and by-laws which would make it possible for more State Associations to effect their unification program with the Institute.

The Association has cooperated throughout the year with Northern California Chapter of A.I.A.

The Executive Board has held regular meetings every month and at times two meetings, the regular meeting place being the office of John Knox Ballantine. Mr. Ballantine has acted as our host with several delicious buffet lunches to members of the Executive Board (without the sales Tax.)

DETAIL OF MAIN ENTRANCE, HUNTINGTON PARK HIGH SCHOOL, HUNTINGTON PARK, CALIFORNIA
George M. Lindsay, Architect

FEW MEMORIAL HALL OF RECORDS, MONTEREY, CALIFORNIA
C. J. Ryland and W. O. Raiguel, Associate Architects

Harold C. Geyer, General Contractor

This view shows Colton Hall on the right and next to it the municipal jail of granite. The Council Chamber is in the center with its wing connecting the Adobe and forming the sunken garden.

MONTEREY BUILDINGS RECALL EARLY DAYS

SPANISH ARCHITECTURE FOR NEW HALL OF RECORDS

By C. J. Ryland, Architect

MONTEREY is one of the few districts of the United States so fortunate as to have had a background which produced characteristics that may be termed a style. This style is a hybrid of the architecture of the early Spanish Dons and the ship carpenters who tarried here upon finding the hospitality and the senoritas to their liking. The first, with the cheap and abundant labor, produced thick walled adobe construction with irregular, white-washed surfaces. The second was an attempt on the part of the carpenter to reproduce the architectural characteristics of his boyhood environment of New England.

With such a background, it was only logical that the architects should have selected the Monterey Colonial style of architecture for the Hall of Records, which was a gift, willed to the city by Mrs. Agatha Few.

The site * was designated to be the Colton Hall property. This is a block of land situated on the slope between Tortilla Flats and the Bay. Already located on this site was old Colton Hall, where the State Constitution was signed. This building was originally constructed for a school, with the present balcony and portico as seen in the photograph, the stairway being a much later addition. The original outside stairs are still on the other side of the building. The first floor of this building is now used for the police department and court, the second floor, originally one large meeting hall, is now divided into two rooms and also used by the city. It is hoped that this building may be restored to its original condition.

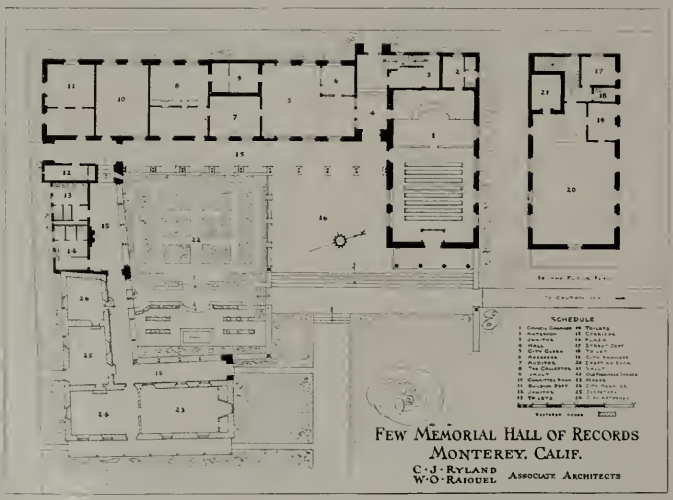
*The will of Mrs. Agatha Few, the donor, stipulated that the building should be erected on the Colton Hall site by the trustees, Mr. George Hudson and Mr. T. A. Work, and that upon completion it be turned over to the City of Monterey. The trustees selected C. J. Ryland and W. O. Raiguel as architects

This view from the Southeast corner of the Colton Hall Property shows the restored adobe and its tie in with the wing of the main building. Note attractive landscaping.

OLD FASHIONED GARDEN, HALL OF RECORDS, MONTEREY, CALIFORNIA
C. J. Ryland and W. O. Raiguel, Associate Architects

The granite jail, erected in 1857 as a single block, was later connected to Colton Hall. This structure is interesting because of its granite vaulted cells with their very small, narrow windows, and in which some of the original rings and chains used to manacle the prisoners are still to be found.

Also located on this property was an old adobe residence, which had been remodeled several times, and to its detriment. This building shows the natural development of a typical Monterey Colonial plan. As the family increased, rooms were added, in this case proceeding up the grade, necessitating steps at



the interior doors and cutting down of the ceiling heights.

Many of the land surveys for the adjacent property used the hearth in this adobe as a datum. It is a point of interest that when property changed ownership, the old and new owners adhered to the custom of passing a handful of earth to the buyer, thus sealing the transfer with all the dignity and ceremonial gesture of the Spanish court. All of which was regularly entered and described in the records.

In planning for this new Hall of Records, the problem of the architects became one of developing a building to meet the needs of the city, to utilize and restore the old adobe, to obtain a sufficiently monumental structure as a memory to the donor, and to produce a harmonious note with the old buildings on the site without overshadowing Colton Hall.

The two story portion, which furnishes the necessary monumental feeling, was kept as far back on the property as Colton Hall itself, with a vast expanse of lawn and shrubbery before it. From this unit the building follows the property line, making an acute angle and descending the hill to merge with the old adobe. The contour of the property, and the fact that the old adobe was greatly out of square with the property lines as well as with itself, provides a charm which can be found in few new buildings. The developing of the plan resulted in varying widths of the corridors, which amble up and down the grades as ramps and steps. This, together with the necessary warping of the roof to meet the conditions of the plan, creates an informal effect not otherwise obtainable.

The walks and the plaza are done in brick, the garden paths and walks in local stone. The outside walls of the building itself are in rolling cement plaster over reinforced concrete construction, finished in white-wash effect. The lighting of the corridors and the yard is accomplished by using replicas of the old lanterns of California, done in brass.

Since most of the old adobe buildings were roofed with split redwood shakes, a clay shake

OPEN CORRIDOR, FEW MEMORIAL HALL OF RECORDS, MONTEREY, CALIFORNIA

was made, molded over split redwood, weathered in effect, thus resulting in an interesting fireproof roof, yet with much of the feeling of the original old roofs.

The details about the job generally are quite restrained. The wooden windows are set close to the exterior face of the wall, showing deep reveals on the interior, the wide stools accommodating the grills from the hidden radiators below them. In the rooms, the walls of the public spaces are wainscoted with molded panels having raised centers. All other walls are plastered in a smooth finish, the ceilings acoustically treated, and the entire surface painted.

The interior of the council chamber is charming in its simple, refined dignity. It is furnished with Colonial type pews for the public space, and a semi-elliptical desk for the officials, on a rostrum one step high. This desk is so placed that all members, including the city manager and city clerk, face each other as well as the public. The finish of this furniture is in mahogany, while the remainder of the room is in warm gray and ivory, with a dark plank floor. The wall treatment is plain, except for the simple pilaster treatment at the back of the rostrum. The ceiling has a low, flat cornice lending height to the room. The lighting is indirect, from standards attached to the pews.

General Sherman's Headquarters, Monterey

POINTS OF
INTEREST IN
ROMANTIC
MONTEREY,
PEBBLE BEACH
AND DEL MONTE

Custom House, Monterey

The sixteenth hole of the world-famed Cypress Point golf course, Del Monte, California

Larkin House, Monterey

THE ARCHITECT IN A MODERN WORLD

OPINIONS ON CHANGING STATUS OF THE PROFESSION

By R. L. Duffus in The Architectural Record

This study of the architect, his changing status, his future place in society, was based on a questionnaire sent to several hundred architects, including membership in The American Institute of Architects and architectural societies. The attempt was made to secure a cross section of opinion on what architects are doing, their attitude toward Federal agencies entering the field of architecture, and the possibilities for enlarging the fields of usefulness by architects.

A LAYMAN conversing with architects, or thumbing through their magazines and books, or, as I have just been doing, studying their replies to a questionnaire, discovers at once that they are uncertain about the future of their profession. Some are apprehensive and some are expectant, but none, so far as I can find out, is sure.

The profession may be about to be tamed and absorbed by business enterprise, like a kind of aesthetic Ethiopia. It may, on the other hand, be moving toward a re-assertion of its independence—even toward a dominance never previously attained. I don't pretend to have an answer. I would like to present the dilemma, largely as the architects themselves see it, and then suggest a layman's reaction to it.

I think we may start from one point of certainty. Whatever may happen to architects and to architecture, both will continue to exist in some form as long as cilivization lasts. An architect, as the Greek roots which make up the name say, is simply a master builder. There will continue to be building and some group of men will be the masters of it. They may or may not be the men we call today by the heroic name of architect. If bankers, real estate developers, industrialists or politicians determine how we are to build they will be the real architects, even though they hire draftsmen and engineers to give shape to their ideas and stability to their buildings. The result will be good architecture, mediocre architecture or bad architecture, the architecture of truth or the architecture of falsehood. But we cannot avoid having architecture.

I should broaden the definition of architecture to include much more than the forms and functions of buildings. It enters into the shape, the color, the texture, the fitness of all the physical man-made things we have and use. It is the outward form of our civilization. It affects and is affected by our political, social and economic institutions. It swallows up the plastic and graphic arts and I believe has more to do with the way we think and feel than either music or literature, or both together.

The ugliness and confusion of most parts of most of our cities, the drabness of factory towns, the slovenliness of many of our country villages, the shrieking falseness of many of our suburban developments ("improved real estate," God save the mark!), are the architectural expression of a defective society. I like to think of the architects some day rising in rebellion, not with guns in their hands

but with pencils, drafting boards, modeling clay, and all the instruments of the builders' trade, to build them nearer to the heart's desire.

Some one is sure to ask, why put this burden on the architect, who is, after all, only a man with some technical training and experience, trying like the rest of us to earn a living and, like most of the rest of us, not making too good a fist of it just now? The answer is that all who will assume any part of this burden,, whether or not they hold degrees or licenses, are sharers in the great adventure of architecture.

Yet, speaking always as a layman, I do not propose that the architect shall be let off easily. At the center of the movement there must be the men of degrees and licenses, who can conceive and construct, and so give form to the dreams of their generation. All civilizations are embodied dreams—or nightmares. At the climax come the master builders, speaking truth in stone and wood and, in these latter days, having the potentiality of speaking truth also in metals, alloys and plastics.

The architect has never been, will never be, allowed to build without interference. He must have land, he must have materials, he must have labor to assist him. He must call in his brother, the engineer, though why a sharp distinction should be made between the two I find it hard to understand. Under credit capitalism he must satisfy the banker, who is thinking not of good building or beautiful building but of stable market values. Whether he builds a summer cottage, a factory or an office building he must deal with owners, whose taste may have been spoiled by their education, their environment or their way of life.

These are the crosses he must bear. But he is no master builder if he merely achieves a reasonable compromise among them. Over and beyond his duty to his associates, to his clients, to those who find the money to make his work possible, he has a duty to society. He owes it to his fellows to have no part in creating slums, in intensifying urban congestion, in vulgarizing the countryside. If he meets these problems he may produce good architecture without ever asking himself whether it is also art. But the final challenge to every generation of architects is to produce great architecture—and by great architecture I suppose one means that which will truly express the dominant aspirations of a period, all the soaring quality, all the beauty that is in them. By means of great architecture a generation of men says: "This may not be what we are, but this is what we wish to be."

We are moving—of that there can be no doubt. The basic assumptions of our civilization are shifting. Professor Charles W. Killam of Harvard has defined "the principal function of the architect today" as being "to plan and direct the execution of building projects so as to produce convenient, safe, economical and durable inclosures for our manifold activities." One would not quarrel with such a definition. But the activities are changing, and with them the personnel of those taking part in them. New groups and classes are knocking at the door, asking as of right what used to be the privileges of the few. Decent housing for all, adequate recreation facilities for all, light and air in working places, spaciousness—these are ideals which change the nature of architectural problems at the very moment that architecture is arming itself with new methods and new materials. Cities are dissolving into the country. In the automobile we have traveling homes or offices.

Yesterday's buildings and yesterday's ideals are less and less satisfactory. At no time in history has a merely imitative and traditional architecture been so inadequate, so incongruous. To express his own time the architect must make a fresh start. To make a fresh start he must be trained to an awareness of his own time. The problem is educational—education of the architect, education of the public to understand its own needs and, even, its own half-realized desires.

The Question of Income

The practicing architect is but one link in a chain of influences and agencies which cause a particular building, of a particular sort, to be built on a given site at a given time. He is subjected to pressures of many kinds, affecting all phases of his life and work. There are long-term and short-term trends, and trends economic, social, political and aesthetic. Technology changes between one set of specifications and another.

It is not putting the profession in an undignified light, however, to say that the first test of its position is whether its capable and industrious members can earn a living. If they cannot, something must be wrong in the relationship between the profession and the community. It is easy to see that something has been wrong during the past six or seven years, with building operations at a fraction of their former volume.

Not only did the total available commissions decline, but there appeared in the building industry, as in other industries, various methods and devices intended to cut costs. There was a growing tendency among speculative builders to use standardized house plans—often prepared by draftsmen working for small fees; manufacturers offered plan services with their goods; the "talented younger university men" were exploited; there was some increase in the use of fabricated parts; and although the prefabricated house is still a rarity a determined drive is being made to market it. These encroachments were probably inevitable, but the depression certainly accentuated them. They would have seemed less important during the boom days when new office buildings, multi-family apartment houses and factories were offering profitable commissions to the more successful architects. Competition in the comparatively neglected residential field stiffened just as that field was being invaded by agencies which had little use for the architect.

Government offered the architect a certain amount of work through the PWA. It endeavored to stimulate repairs, remodeling and new home construction by broadening the mortgage market. It aroused interest in slum clearance, although the failure of the Wagner Housing Bill in the last session of Congress reduced that activity to a few isolated demonstrations. Building operations rose from about one-tenth of their former volume to one-third or more, but this rise could not restore to the architect his former prosperity—such as that was.

Architectural opinion is by no means unanimous as to the value of the Federal operations: "The chief advantage has been to the speculative builder," says one man; they have tended, says another, to "encourage the speculative builder . . . who operates at cut rates, chiseling down all labor costs and professional services to the detriment of the private architect"; a third declares: "Practically all of the FHA architectural work is done by operative builders, contractors and material supply houses, resulting in poorly planned and designed houses of the 'mongrel' type." But at least a majority of architects seem to agree with the A. I. A. member who said: "I believe these agencies have increased public recognition of architectural services—at least they have tried hard enough."

Public opinion in the United States seems to be waking up slowly to the crying need for better housing — one might say, for a minimum standard of decency in housing—and in this field the architect may find opportunities which will outlast the depression. But it is obvious, and replies to questionnaires bear out the conviction, that under present conditions the architect can rarely afford to serve the small-income group which really needs his help most. As I run through my pile of questionnaires I find some evidence of successful ventures; young architects may cut their eye-teeth on small houses; architects have responded favorably to government proposals for limited services on moderate-cost houses; "the technologically backward residential field still offers a comparative freedom for the free lance architect"; "the small office, with young draftsmen, is the answer"; "architects having low overhead can profitably do small-house work on the basis of the

fees recommended by the A. I. A."; "the opportunity is unlimited—none of us yet has found the way to take advantage of it"; "our own firm has now under construction or on the boards six houses costing under $10,000, and we consider them well worth the effort, even though the net return is very small." . . .

The architect is being forced to overcome the obstacles in the small-house field. But the smaller the house, I begin to believe, the larger the architect ought to be, for he must see his house set rightly into the community and cannot do his work to best advantage unless his understanding runs all the way from the layout of streets and parks to the proper composition (not too brittle, not too slippery, not too absorbent) for the drainboard of a kitchen sink.

Replies to Questionnaire

Two years ago the A. I. A. sent out a questionnaire, to which it received 240 or more replies. Of the 226 Institute members who tried to classify the architect 187, as Director William T. Warren analyzed the returns, saw him as "a professional man whose idealism carries him beyond the customary thought of the interests of the client coming before the interests of the architect, carries him to that rare and lofty pinnacle where fairness and justice come before the interests of either architect or client."

This is admirable, but in practice what does it mean? An architect must be more than fair and just. He must have sufficient knowledge to do a great many things, sufficient wisdom not to try to do too many. In The Architectural Record's questionnaire, there were three queries bearing on this point: "Can the services rendered by the architect be enlarged and, if so, in what new ways? Do you consider the architect capable of undertaking commissions in such fields as community planning, industrial design, furniture design and interior architecture? Can we assume that architects, as users of building materials, should work more closely with industry in improving and producing materials?"

The answers, like most of those in questionnaires deliberately intended to encourage the recipients to be voluble, do not lend themselves to tabulation. They do suggest, however, that the majority of architects are at once anxious to avoid a narrowing of their historic field (which is certainly vast) and puzzled as to just how they shall meet not only the old but the new requirements. The architect would like to think of himself as capable of designing and executing every detail of a building, including the furniture. He can hardly avoid a sense of responsibility for community design, in which the nature, use and spacing of buildings is a major factor. He shrinks from being called an "interior decorator" — why should a well-designed interior have to be "decorated"? He realizes the importance of industrial design, but is not sure that without special training he dare undertake it. In his boldest moments, however, he considers nothing in the field of design alien to him. . . .

Architectural Education

Few architects seem completely satisfied with architectural education. For example: "Good on the whole, but the less we look at the Ecole des Beaux Arts, the better"; "With such faults as it may have, it still is an excellent education" (John M. Harbeson, office of Paul P. Cret, Philadelphia); "On the whole intelligent, desirably conservative in taking up new trends, many only passing symptoms, but steadily developing, through cooperation of the leading schools, so as to meet the needs of the times" (William Stanley Parker, Boston); "Believe it is getting better and better"; "Improving all the time — more emphasis should be given to structural engineering"; "Good in recognized colleges"; "Doubtless the method of the schools might be modified to advantage in some instances, in many respects, but, after all, they have sent a good many men on the right road."

As is, perhaps, usually the case, the criticisms are more specific than the commendations. The basic criticism in the answers to the questionnaires is that the schools are out

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ENGINEERING PHASES OF BAY BRIDGE TRAFFIC

HOW 70,000 COMMUTERS WILL BE HANDLED DAILY

By Frederick Hamilton

THE Interurban Railway for the San Francisco-Oakland Bay Bridge project is to be built by the State of California under the direction of the California Toll Bridge Authority. It is to directly serve an annual commuter traffic of 35,000,000 trips in the San Francisco metropolitan area between the counties of San Francisco on the west and Alameda and Contra Costa on the east, and indirectly many additional non-local passengers. The railway and terminal facilities must at present accommodate a daily commuter traffic of 50,000 persons each morning and evening, and ultimately 70,000 persons.

The commuter service is to be by electric trains, operated without any change of cars by passengers, from a terminal in San Francisco located at Mission and First Streets, over and along the Bay Bridge and existing interurban lines in Alameda County. In this connection it should be noted that the Reconstruction Finance Corporation limits its loan commitment to electric train service.

It is intended that for the initial eighteen months of operation the fare plus toll collected by the carriers shall not exceed the present existing fares charged by the carriers for like transportation by train and ferry. This toll, which is to be paid to Authority, shall not exceed two and one-half cents per passenger per ride and is an assessment toward the costs of bridge railroad interest and amortization. In practice both toll and fare will be collected on one ticket, just as fares are now. The tolls will be paid in a lump sum monthly by the carriers to the Authority.

The cost of interurban facilities over and in connection with the bridge which the Authority contemplates furnishing is approximately $15,000,000.

Reconstruction Finance Corporation required the performance of sundry conditions before it would make a loan to the Authority to pay the cost of providing interurban facilities over the bridge. These conditions included (1) abandonment of existing interurban ferry service, (2) contracts with interurban rail carriers to operate exclusively over the bridge railway and (3) approval of these transactions by the Railroad Commission of the State of California. These conditions have been met by the necessary agreements and the carriers have consented to abandon their ferry services in exchange for the opportunity to move their interurban passengers to and from San Francisco over the bridge railroad. The agreements with carriers provide that they can be terminated by Authority by giving notice of the same in 1942, or at the end of any subsequent five-year period, such as 1947, 1952, etc. Such notice shall state a date of termination of contract but must be not less than two years after date of notice.

In order to provide for the satisfactory operation of the bridge railway and of the rail facilities to and from the bridge, it is contemplated that Authority will effect certain changes, alterations and additions in or to the railway lines and rolling stock to be used by the carriers. Authority shall be reimbursed in properties consisting of land and

cars equal in value to the total expenditures made by Authority. The rolling stock to be purchased or otherwise acquired by Authority shall be leased to the carriers and operated by them on the bridge railway.

Leases to subtenants and concessionaires in the San Francisco Terminal shall be handled by the carriers subject to the approval of Authority. All the rentals collected shall be paid over to Authority without deduction therefrom. However, no service charges collected, such as for heat, light, water, power, janitor service, fire and other insurance and the like, shall be paid to Authority but shall be for the sole account of carriers.

Physical Features

The carriers lines connect to the bridge railway at the approximate shore line of western Oakland, requiring a few revisions in the operation of the Southern Pacific lines. The Alameda lines operate the reverse of their present operation and approach the bridge by way of the Seventh Street line with new curved construction at Lincoln Junction in Alameda and at Seventh and Bay Streets in Oakland. Near Twenty-sixth and Wood Streets an elevated Y diverts the Southern Pacific lines westward and connects to the bridge railway.

There is no crossing of railroad lines at grade. In order to accomplish this, the Southern Pacific westbound line crosses the Key System eastbound line on an overhead concrete and steel structure. The interlocking tower, storage yards, car inspection and cleaning buildings, and stations, will be located in the East Bay yards.

From the East Bay yards the railway travels on the lower deck of the bridge to Yerba Buena Island where a station is located between the tracks for access to and from the island.

From the island the railway travels over the West Bay Crossing to Rincon Hill, turns west at that point and descends to the San Francisco loop and terminal. In San Francisco the railway is elevated above all street crossings avoiding local automotive and street car traffic. Structures for this purpose are of concrete and steel of ballasted viaduct construction.

Trains will operate over the bridge railway on seventy-five seconds headway with maximum speed of thirty-five miles per hour and on maximum grades of four per cent. The Interurban Company trains will operate on voltages of 1350 while the Key System will be at 625 volts. Due to this difference in voltage separate power supply lines are provided; an overhead catenary system for the Southern Pacific Company and a third rail system for the Key. After the Key trains leave the bridge railway and operate over their own existing lines they will convert to an existing overhead catenary system.

In order to obtain maximum safety in the operation of the trains on the bridge railway an elaborate cab signal control system has been devised.

An East Bay storage yard of considerable size will be required in which to store equipment when not in use. No storage in San Francisco is contemplated. The existing Key System tracks will connect directly to the east end of this yard, while a new connection will be necessary to provide for the Interurban tracks. Set-out and pick-up tracks are provided so that a train may enter and remove or add as many cars as necessary with the least possible delay. In rush hours no stop will be necessary in the direction of the heavy load. The overhead crossing of the Southern Pacific main line tracks near Twenty-sixth Street will provide, when the Key System is able to finance the construction, a more direct connection for its Twelfth and Twenty-second Streets lines.

The general track construction on the bridge will be open deck, using timber ties and guard rails. Ninety-pound intermediate manganese rail will be used for running rail and ninety-pound second hand rail for iron guard rail. Ballasted track will be used through the tunnel and on the concrete viaducts.

To reduce noise, solid floor construction is being used throughout the San Francisco viaduct. Ballasted track is being used throughout the viaduct except through the station. All track construction in the San Francisco viaduct is of ninety-pound A.R.A. rail with ninety-pound guard rails. For the running rail, intermediate manganese rail is proposed, except that high manganese rail will be used on the curves.

Within the terminal the track consists of ninety-pound rails on sectional timber ties embedded in concrete. In order to reduce noise and vibration this concrete construction rests on an insulating layer of cork which in turn bears on the concrete trough construction between the loading platforms of the station.

The following changes of the equipment of the two companies are requried:

(1) Motorizing of the present control trailers in order to operate on the bridge grades at the required speeds.

(2) All motor cars and controlled trailers must be equipped with cab signals.

(3) Gates must be raised in height and window stops provided.

(4) Automatic couplers must be provided for rapid operation through the East Bay set-out yard.

(5) Sanders and window wipers for all motorcars and controlled trailers.

(6) Improvements in air brake lines.

(7) Double-body articulated units will be substituted for present wooden cars.

San Francisco Terminal

No question has received more attention than that of the proper location of the San Francisco interurban terminal, or terminals. The location of the station is fixed by two considerations, cost of property and adequate connections with the San Francisco Street Railway System.

One of the principal considerations affecting the terminal location was that of adequate connections with the two street railway systems. The fact soon developed that it would be impracticable from an operating standpoint, to turn cars off from and on to Market Street west of First Street. This fact, coupled with property values, practically fixed the location at the site selected. The suitability of this location was so obvious that it was accepted by all those studying the problem.

Within economic limits, the proposed station offers the greatest convenience to the commuter passengers. The destination of over 50% of these passengers will be within 3000 feet of the center of the station. This compares with twenty-five per cent for a similar distance from the present ferry terminal. The remainder will have convenient facilities via street car.

The cost of the construction, including property requirements, will be the minimum possible consistent with architecture and setting required for a metropolitan terminal. The terminal and approach viaducts have been located to keep the property requirements at the lowest possible figure while still obtaining proper operating conditions. The length of the line between the bridge and terminal is as short as possible consistent with bringing the passengers within a reasonable height above the street.

This location permits convenient connections to the street railway system and to the proposed rapid transit system of San Francisco, which study contemplates a station in Fremont Street directly under the interurban terminal. Streetcars enter the terminal via First Street and leave via Fremont Street. There will be no appreciable addition to the present congestion of pedestrian, motor vehicle and streetcar traffic due to this terminal location. Traffic originating at the terminal will have a chance for dispersion before it reaches the congested area (Market Street betwen New Montgomery and Sixth Streets). This station will provide for a fifty per cent increase over the present traffic and will care for all the traffic that is probable within the next thirty years. This is on the basis of every

passenger being seated. With standing conditions during the rush hours, this terminal should prove adequate for the next fifty years.

In addition to the generous terminal facilities for handling the traffic, the layout affords convenient means of reaching the street, the streetcars and the subway, while also having ample space for securing a large income from concessions. At the Ferry Building the present rental for concession space amounts to $98,000 per annum while at this new terminal, due to the larger areas available, there should be a material increase in this amount. Additional rentals will be obtained from the specialty shops, garages and other facilities provided.

Operating as they do, on a twenty-minute schedule, the present interurban passengers are subjected to milling crowds at all points of transfer. With the bridge, the traffic will be a much more uniform flow with practically no crowding. There will be no necessity for all commuters during a twenty-minute period to assemble at one time at the terminal, such as is now necessary at the Ferry Building.

The operation over the bridge will result in a ten-minute saving to the average passenger. This will have the effect of extending the commuting range. The operation via the bridge will save one transfer for all patrons and two transfers for nearly half the passengers.

The San Francisco Terminal's main function is to allow passengers to get to and from the elevated trains, from and to the streets and sidewalks as easily, conveniently, and quickly as possible. In order to provide for the comfort and cleanliness of the commuter, the tracks and loading platforms are entirely roofed over for a length of 700 feet while large skylights and windows provide ample lighting within. The six tracks are arranged in pairs, with platforms between alternate trains giving a main station width of 164 feet, two inner platforms each of 27 feet width and two outer ones each of 14 feet. A fence between the adjacent tracks will prevent passengers from crossing them, to their danger. The large inner platforms serve two tracks, but as the trains thereon are not always in the station at identical times the entire width is often available for the passengers of one train.

The station is really an enclosed system of ramps and stairways connecting the street and streetcar concourse to the four loading platforms for the East Bay trains.

From all of the track platforms spacious ramps and stairs connect to the mezzanine concourse. There are seven such connections to each platform, spaced along its length so as to serve the entire train and to require passengers to walk a minimum distance. Ramps have a maximum grade of 10% and are treated to be anti-slip.

Due to First and Fremont Streets requiring considerable clearance under the station, it is not possible to provide a mezzanine concourse for the entire length of the station without unnecessarily raising the track platform, which would, of course, increase the height of climb from the street for all passengers to reach their trains. It has been of paramount importance to us to keep the vertical distance between the streets and the train platforms the very minimum that could be obtained and still have sufficient space to pass under the track floor on First and Fremont Streets. Therefore there are three separated concourses, divided by these two streets and located vertically between the street level and the track level.

The principal function of the concourses is to provide for horizontal distribution under the tracks, as this cannot be done on the upper level. A passenger going to the trains must first locate by signs the platform at which his train is stationed, travel across the concourse to the ramp or stairway leading to that platform and then ascend. At times there may be more than one train on the same track, therefore each platform may serve several trains. Information booths, ticket offices, directional signs and concessions will also be

on the concourses. From the concourses one may travel directly to the street cars which are just outside the station on the same level or by means of ramps or stairs to the streets or waiting room below. One may also pass from or to the waiting room to or from the streets.

Spacious Waiting Room

On the ground floor is located the spacious waiting room in the center of the station, with access thereto from four streets: Mission, First, Fremont, and Natoma. During ordinary operations the commuters need not pass through or use the waiting room on their way to the trains but may pass directly to the concourse by means of outdoor or indoor ramps situated in and in front of the head house or on each end of the station. About the waiting room are rest rooms, restaurants, first-aid rooms, concessions, telegraph and telephones, et cetera. The Mission Street entrance to the waiting room passes under the streetcar elevated tracks and platforms while also leading directly to the concourse.

East of Fremont Street and west of First Street on the ground floor are entrances to the end concourses, by way of stairs and ramps. Concession areas are also located here. Passengers may enter or leave the station by way of Beale Street and of Second Street also.

Due to the large numbers of entrances where access may be had to the station, the amount of walking is reduced to a minimum, no matter which direction the commuter comes from. The same applies when he is leaving the station on his way to work. Automobiles may discharge their passengers principally in front of the station at the wide driveway or secondly along Natoma, Minna, First, or Fremont Streets or at the garage connecting directly to the western concourse.

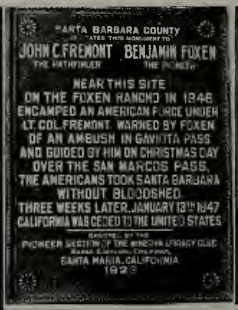
Taxis will discharge and pick up fares at the widened street driveways provided directly under the station on First Street and on Fremont Street or as stated above for automobiles.

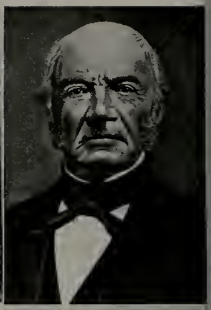
The station is being designed so that connections may be made in the future to the San Francisco subway in Fremont Street by way of stairs, ramps, or escalators.

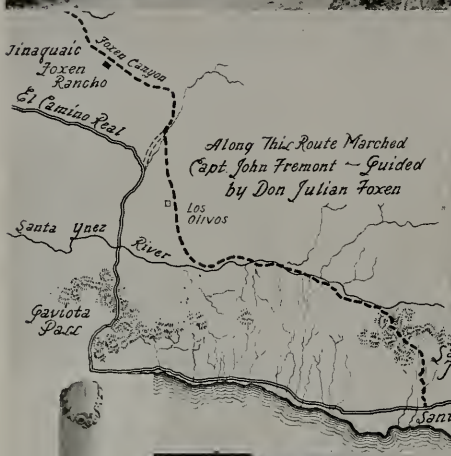
The San Francisco Municipal Railway and the Market Street Railway propose to swing some of their cars south at Market and First Streets and travel along First Street to the station. The Authority will provide a ramp on which to raise their cars and passengers in front of the station to the concourse level, and on which they may lower again to Fremont Street. They then propose to turn north on Fremont Street to Market Street and turn onto Market Street as at present. The raised streetcar ramp will accommodate three tracks with wide platforms between and with a large pedestrian ramp from the streets along the head house face.

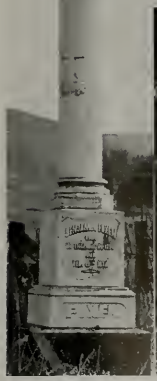
The interlocking tower for the interurban system about the station will be located above the track level at the west end of the loading platform. A large signal board, which will always show the operator the exact position of every train within the system, will be located in this tower.

The structural design of the entire system has been made as simple as possible. A large part of the viaduct and terminal structures in San Francisco will be on piling. Flat slab construction will be used largely for the terminal floor construction. All of the terminal will be of reinforced concrete or structural steel. The First and Fremont Street crossings are to be free of any structural columns, they having been placed on 84-foot spans within the property lines. The members spanning the streets and supporting the track floor and roof are of structural steel rigid frames of three spans. The station roof is free of all trusses, being supported by four-span structural steel frames. Over the streets these rigid frames are carried on the rigid frames previously mentioned. Acoustical treatment is being provided where needed in an effort to keep the station as free of noise as possible.


SANTA BARBARA COUNTY
JOHN C. FREMONT
THE PATHFINDER
BENJAMIN FOXEN
THE PIONEER
NEAR THIS SITE
ON THE FOXEN RANCHO IN 1846
ENCAMPED AN AMERICAN FORCE UNDER
LT. COL. FREMONT. WARNED BY FOXEN
OF AN AMBUSH IN GAVIOTA PASS
AND GUIDED BY HIM ON CHRISTMAS DAY
OVER THE SAN MARCOS PASS.
THE AMERICANS TOOK SANTA BARBARA
WITHOUT BLOODSHED.
THREE WEEKS LATER, JANUARY 13TH 1847
CALIFORNIA WAS CEDED TO THE UNITED STATES
ERECTED BY THE
PIONEER SECTION OF THE SANTA YNEZ LIBRARY CLUB
SANTA MARIA, CALIFORNIA
1923







Scenes and characters figuring in dramatic story of San Marcos and Gaviota Passes. Upper row—Gaviota Pass, 1912. Inscription on Fremont-Foxen monument. Benjamin Foxen. Center—Sketch map of old Foxen ranch and route over which Foxen guided Fremont to San Marcos Pass. Restored Sisquoc church. Lower row—Monument at grave of Foxen. Section of new San Marcos Pass State Highway. Mrs. Maria Antonia Foxen Cooper, daughter of Foxen; Benton Fremont, grandson of John C. Fremont; Mrs. Matilda Foxen Carteri, daughter of Foxen, at Fremont-Foxen memorial monument.

Courtesy California Highways and Public Works

CALIFORNIA SCHOOL OFFERS LIGHT SOLUTION

EYE STRAIN OF PUPIL NO LONGER IMPERILED

By Zoe A. Battu

IN seeking correct lighting for offices, stores, public buildings, schools, homes and factories architects and illuminating engineers have proceeded on the theory that, solution of the problem lay entirely in light and the manner of its diffusion by lighting fixtures. Innumerable fixtures, embodying direct, indirect, semi-direct and semi-indirect principles of diffusion have been designed and placed on the market. Each type of fixture has a use and value. Under the proper conditions it will give economical, adequate illumination with a minimum of glare, shadow and strain to the eyes. But no fixture has yet been designed, which gives, at all points of the room, an adequate, evenly diffused light and wholly eliminates glare and areas of shadow. The illusive quantities of glare and shadow seemed destined to be always with us, and professionals and laymen generally resigned themselves to accepting them as necessary evils.

Recently, however, color appears as the long missing link in correct lighting, the perfect solution, in fact, to the gloom and glare problem. This has proved to be the case in the Sausalito, California, school room, presented in this article, and which is the first class room in the country to which the new principles of color and lighting have been applied. The room, which is one in the Central Grammar School of the Marin County community, was developed in an effort to

BEFORE

Before refinishing in five tones of blue and re-equipment with a modern lighting system, this school room resembled a dungeon. Note irregular diffusion of light, the areas of deep gloom, and lack of clear visibility of objects on desk.

AFTER

After refinishing in accordance with modern principles of lighting and color treatment this class room is immeasurably improved artistically, and as a work room. Note even diffusion of light, clear visibility of objects in the room, and absence of gloom and glare.; Panel in the distant right corner is the board for automatic control of the lighting fixtures. When redecoration of the whole building is completed, the automatic control system will be centralized in the basement and only two electric eyes will be in each room.

correct a serious condition of eye strain among the students, due to faulty lighting conditions. Tests of the childrens' eye sight had been made over a five year period and detailed records kept on 220 children. These data showed that 20% of the student body had defective vision in one or both eyes and were in immediate need of glasses or other corrective treatment. Children in attendance at the school generally complained that reading its blackboards was difficult, and that there were often times when it was impossible to decipher the boards. Fatigue and headaches were also prevalent among the students. There was little question but what these complaints and conditions were caused by faulty lighting conditions, since malnutrition and other possible causes were not prevalent among the students. To the parents of the community it was an alarming state of affairs and the decision to remedy the lighting conditions was unanimous.

Early in the present year, the school board set apart a seventh grade room in which lighting conditions were particularly bad for experimental purposes. The idea was to develop a perfect lighting system for this one room and then install it throughout the building. Tests were made of several types of lighting fixtures. None of them proved quite satisfactory, and finally a luminous indirect type of fixture was specially designed. This provided adequate light for school room work with a minimum of glare and shadows, and was accepted as the best possible solution to the lighting problem.

At this point, the illuminating engineers suggested the use of color in conjunction with the lighting. Color had not entered into the plans of the school board, whose members were of the opinion that a modern lighting system would solve their problems. To them the theory that, satisfactory illumination depends, not entirely upon lighting, but also upon correct color treatment, sounded far-fetched and fantastical. But since they were frankly experimenting, they gave the theory a fair hearing, and finally decided to go into the color idea. A color consultant, Elizabeth Banning, who has worked in this field with the late Vido Stine, architect, of Coblentz, Germany, was commissioned to do the color work. She recommended that the walls and boards of the seventh grade room be done in several shades of blue. The tones to be used on the several wall areas were determind by painting a series of panels and testing them with the accepted fixture.

In the finished room the ceiling is dull white. Walls and woodwork are in five shades of blue. An eight inch freize space is very light blue. A space between the moulding and boards is several shades darker. The boards, a medium navy, are the darkest blue of all. The woodwork below the boards is slightly lighter; the baseboard is almost as dark as the boards. The doors, their frames and window frames repeat the blue of the baseboards. The Venetian blinds are refinished in a misty blue tint. The floor is gray-black. The desks, including that of the teacher, are dark lead-gray.

There are twelve lighting fixtures in the room, each with a 300 watt globe. The fixtures are designed to throw 95% of the light upward to the ceiling, which reflects it downward into the room. In the base of the fixture's reflector is a semi-transparent disc, six inches in diameter. Five per cent of the light is reflected downward through this disc to softly illuminate the reflector so that it is not in itself a spot of gloom. The fixtures are automatically operated by two electric eyes. The control and eyes are adjusted to maintain the quantity of light at all points of the room at 30 candle feet. In the past, 15 candle feet and in some cases as little as eight candle feet, was considered sufficient for all school room purposes. But numerous tests in the Sausalito school convinced the experimenters that 30 candle feet of light permits all types of class room work to be done without effort and strain to the eyes.

The contrast between the blue room and

the other rooms in the Central School, finished in the old, conventional fashion, is startling. Entering the blue room, you are aware of a gradual relaxation of the eye muscles and the muscles and nerves of the entire body. This relaxation is, in fact, uncanny. So adequate and perfectly diffused is the light that it is possible to stand at any point in the room and read the boards without effort. Glare is absent from all parts of the room.

Going from the blue room into one of the old style rooms, you are conscious of a straining of the eye muscles in an effort to adjust themselves to a room with several areas of glare and gloom, caused by unevenly diffused light, the shiny blackboards, glistening yellow desks, white walls, and gloomy brown woodwork. The seats near the windows are in a blinding blaze of light. Those on the opposite side of the room are in near darkness. The boards, adjacent to the windows, catch and reflect the light from outside as glare. The boards on the further side of the room are in a zone of deep shadow. It is difficult to read one set of boards for the glare, and the other because of the shadows. It is impossible to adjust the blinds to secure proper or restful light conditions in the room. You perceive why the children complained they could not always make out what was written on the boards. You understand the eye strain, the high percentage of visual faults, the fatigue and headaches.

The blue room has been in use some eighteen weeks. This is not long enough to permit drawing conclusions as to the value of the color treatment in conserving eye sight and preventing eye strain. But the generally improved light conditions are self evident even in the black and white photographs, and the brief trial period has served to convince the Sausalito School board of the scientific soundness of this new color theory. The members have decided to continue their experiment and are extending the color treatment to every room in the building.

The principles underlying application of color and light in this room are relatively simple. The room has a western exposure. On the average morning and afternoon floods of bright sunlight pour into it. The room faces a hill, also drenched in sunlight, which throws into it (the room) a sheet of glare. These factors create a light in which there is a high percentage of red rays, which cause glare. The blue walls and gray desks absorb and neutralize these red rays, thus eliminating the glare. The color treatment also accounts for the fact that 300 watt globes can be used in the fixtures. Ordinarily, such high wattage globes would produce a flood of light too dazzling for comfort. But with the neutralizing color treatment all twelve fixtures can be turned on at night or on particularly dark days without causing glare or the least sense of discomfort.

While blue walls are successfully used in this room, it will not be possible to duplicate this color treatment throughout the Sausalito School. Nor can blue be accepted as a hard and fast solution to all problems and for all rooms. On the opposite side of the building the rooms have an eastern exposure, receiving sun in the morning and being in the shade during the afternoon. Here, the color treatment may be in soft tones of green. The halls receive little outside light and are very dark. They will probably be refinished in tones of yellow, since the problem is to catch and reflect all possible available light. The auditorium, because of its size, the size and type of windows, and the necessity of clear visibility of the stage, from all points of the room, presents more complicated problems. The type of lighting fixtures to be used, the color treatment of floors, walls, woodwork and furniture can only be determined by experimenting and careful correlation of all factors involved.

To summarize the use of color as the final factor in correct lighting, it appears that, every room is an individual problem and must be handled accordingly. The type and number of lighting fixtures already in place or to

ONE OF FIVE GOLF COURSES AT DEL MONTE.
Besides golf links there are eleven tennis courts, miles of bridle trails, trapshooting, polo fields and swimming pools.

be installed, the wattage of globes, the color and tones to be used on walls, floors and furniture, and the manner of their combination depend upon the room's exposure, size, number and type of windows, and its use. Unless all these factors are taken into consideration and carefully correlated, the result may be considerably less than satisfactory. Color fatigue, which is as trying to the nerves and eyes as inadequate and faulty lighting, may result. The field, however, is one of innumerable possibilities and of vast interest to architects, illuminating engineers and decorators. As time goes on, they will undoubtedly simplify and standardize the principles involved, thus making possible fool proof applications to all types of rooms and conditions.

THE ARCHITECT IN A MODERN WORLD
(Concluded from Page 33)

of touch with reality. What do the critics propose?

Let us run through a few more answers: "The need is for an entirely new system of education, which will conform more closely to the demands of industrialization" (C. Theodore Larson); "In general, the practical side of architecture should be more thoroughly learned"; "Complete renovation, beginning with pre-vocational education" (Lewis Mumford); "A closer integration of the practice with the teaching of architecture"; "A realistic approach to architecture as a part of life, instead of a sentimental attitude toward it as a dream world"; "More practical experience and knowledge of shop work and materials"; "I would favor a course or courses which cover fields in which it is difficult to get guidance or information after graduation, such as the underlying principles in writing specifications, the practice of architecture, its business and legal side, etc." (Waldron Faulkner).

So much for the questionnaires. What are the answers of the schools? What, in fact, are the schools doing or planning to do? Obviously I cannot, within the reasonable limits of this article, analyze the work of even our most important architectural schools. I have selected a few schools and teachers, more or less at random, and will let them interpret themselves, within the brief space available.

Joseph Hudnut, former Dean of the School of Architecture at Columbia, now Dean of the Faculty of Architecture at Harvard, had some stinging comments to make on a system of education under which young men who "are to make the environment in which millions of human beings are to spend their lives and in which the children of the next generation are to be born and reared are being trained for this crushing responsibility by the making of a wonderland of drawings, the major intention of which is to 'stimulate the imagination'." Dean Hudnut went on:

"I think we all recognize that the central problem in architecture today is the creation of some harmony between our technology and its applications on the one hand and our expression on the other. . . . I hold it essential that from the beginning of architectural education we should devise some method whereby the creation of practical buildings and the discovery of beauty may be made integral parts of a common process. I conceive it to be our responsibility as teachers to discover and exploit such a process. . . ."

At the University of Oregon, as Dean E. F. Lawrence of the School of Architecture and Allied Arts writes, there are no competitions, medals or honors. There are, however, "individual programs, and collaboration among architects, landscapers, interior decorators, painters, sculptors and craftsmen." The "use of materials and construction are stressed as a part of design." There is a course in city planning, a final thesis and comprehensive examinations. Freshmen begin by designing small structures, visiting buildings under construction and making weekly reports. "Wherever possible," Dean Lawrence says, "we give application before theory."

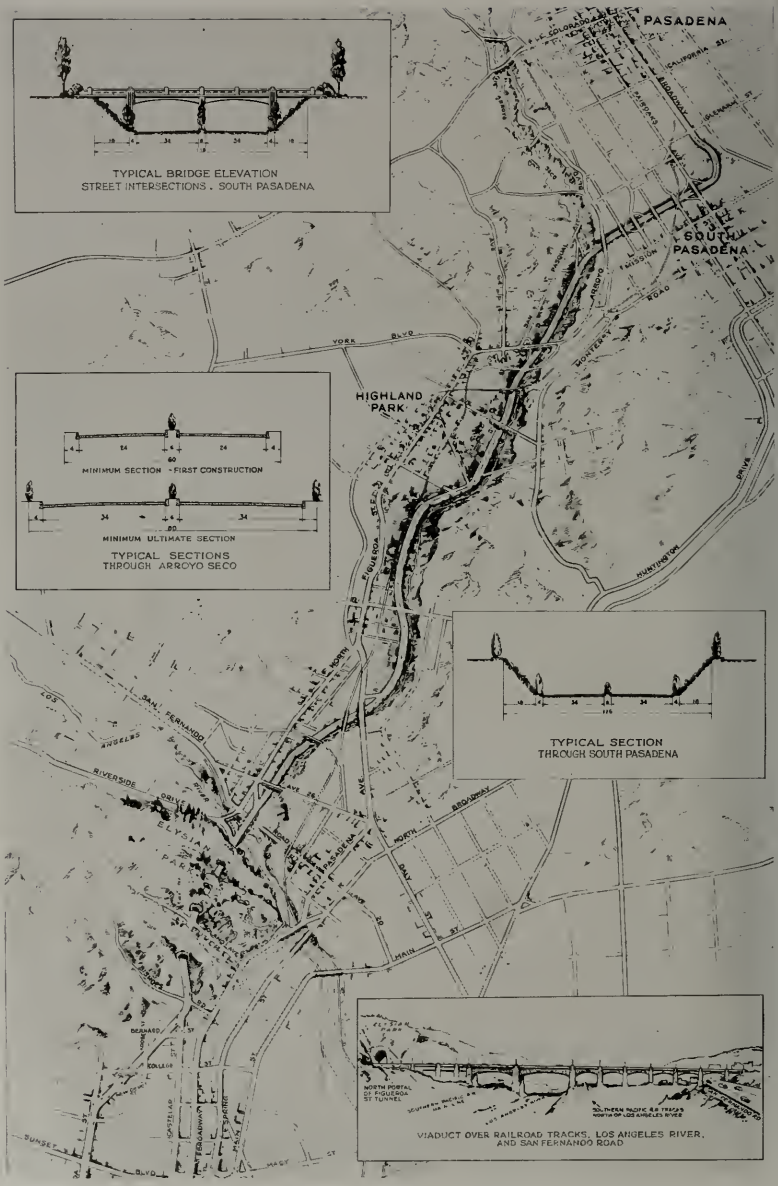
From Prof. W. F. Hitchens, head of the Department of Architecture at Carnegie Institute of Technology, comes a summary of two major changes in curricula which he believes to be general:

"A new approach to the study of design tends toward broadening the viewpoint of the student in three-dimensioned design and in giving greater realism to his work by a closer correlation of design, construction and materials.

"The second change intends giving a student a clearer understanding of the significance of buildings as related to the community through city planning and research into the programs of single structures."

I think I have given enough samples of professorial thought to prove that architectural education cannot be dismissed as "lousy" or as "good as far as it goes," or by any other simple generalization. Like all higher education in this country it is changing, and the effects are spotty. It is fair to say that it is beginning to catch up with the times—fair, also, I believe, to say that it has not, on the whole, caught up.

The issue is obviously clouded in many minds by a confusion between modern education and "modernist" architecture. "Modernist" architecture may be anything under the sun, except classical. Its exact meaning depends on who is using the word. My own impression, as I think back over the evidence I have here tried to summarize, is that the word "modernist" is, paradoxically enough, a hangover from the eclectic period—it implies that if the architect stops copying old styles he must at once make himself a definite new style for somebody else to copy. If I am not mistaken in my deductions the modern drive is not immediately toward a style but toward freedom to experiment. It is this freedom that the schools might well strive for rather than for a species of "modernism" which may all too soon become as stultifying as the slavery of the Orders.



Bird's eye view of the proposed Arroyo Seco Parkway, showing the course the projected quick traffic road will follow from the Figueroa Street tunnels in the City of Los Angeles along the depressed channel of the Arroyo Seco to South Pasadena and connecting with Broadway leading into Pasadena. Construction of the viaduct over railroad tracks, the Los Angeles River and San Fernando Road approaching north portal of the Figueroa Street tunnel is now in progress under supervision of the State Department of Public Works. The new highway will facilitate traffic between Los Angeles and Pasadena and northern and northeastern sections of Los Angeles county.

Courtesy Automobile Club of Southern California

View of proposed Arroyo Seco Parkway location, looking up stream from Avenue 26, Los Angeles, toward Pasadena. Cypress Avenue Bridge of Union Pacific Railroad, shown in center. Route of proposed parkway follows along left side of wheel tracks in foreground.

STREETS CROSS OVER DEPRESSED HIGHWAY

ARROYO SECO HAS SIX MILE DOUBLE LANE ARTERIAL

By S. V. Cortelyou

THE long dreamed of parkway at Arroyo Seco is shortly to be realized, according to a recent announcement of the California State Division of Highways which has started construction of the North Figueroa Street viaduct in Los Angeles.

The parkway will provide a direct nine-mile highway link between the business districts of Los Angeles and Pasadena, and will serve Highland Park, South Pasadena, San Marino and Altadena, and other northern and northeastern sections of Los Angeles County.

The great $578,420 viaduct, 883 feet long, being built from the north portal of the most northerly of the four Figueroa Street tunnels over the railroad tracks, Los Angeles River and San Fernando Road, is designed as the southern terminus of the picturesque parkway, which for 4.5 miles will follow the Arroyo Seco and three miles farther to a connection with Colorado Street, State Route 161, in Pasadena, at Broadway.

Plans for the parkway call for a minimum ultimate width of eighty feet, with a thirty-four-foot roadway at either side of the central parking.

The proposed parkway leaves Figueroa Street between the north end of the Figueroa Street viaduct and Avenue 22.

The parkway section, with the double driveway with a separate lane for traffic in each direction, will extend from this point near Avenue 22 to Glenarm Street at the south end of Broadway in Pasadena, a distance of approximately six miles.

From Glenarm Street the route follows northerly to Colorado Boulevard by way of Broadway, which is 90 to 100 feet wide. Broadway is now improved adequately to

take care of the large volume of traffic which will use this route.

At the southerly end, traffic which uses the parkway will have easy access into and through the center of Los Angeles by way of the Figueroa Street tunnels and Figueroa Street. Access to the business center will also be had by way of Castelar Street, Broadway, North Spring, and other streets.

This double-laned parkway will provide the quickest, most convenient and safest means for vehicular traffic to flow between Los Angeles and points to the northeast. The saving in time to motorists is based not upon the traffic flowing at unduly high speeds, but upon its ability to flow continuously at reasonable speeds without the usual delays caused by intersecting streets.

At Hough Street in Los Angeles, and at Orange Grove Avenue and Fair Oaks Avenue in South Paadena, the present design is arranged so that there will be no left-hand turn across lanes of traffic, which is a very desirable feature from the standpoint of safety and noninterference with traffic.

The proposed depressed parkway through South Pasadena will enable all through traffic to pass through that city without using any of its surface streets, eliminating the hazards and interference with local traffic. All the existing streets in South Pasadena (Arroyo Drive, Grand Avenue, Orange Grove Avenue, Prospect Avenue, Meridian Avenue, Fremont Avenue and Fair Oaks Avenue) will be carried across the depressed parkway on ornamental bridges which will be at the grade of the existing street and will be the same width between curbs as the existing street with the sidewalks additional.

More persons will be enabled to enjoy the long, narrow strip of park in the Arroyo Seco by the construction of this parkway than would be possible in any other way.

Because of the safe and quick access which the Arroyo Seco Parkway would provide to the center of Los Angeles, the areas contiguous to and served by the parkway will naturally become more desirable from a residential standpoint. As a consequence, land values will be enhanced, and the local business centers, which get their support almost entirely from the local residents, will receive the impetus which would come from increased population in the adjacent territory.

Upon recommendation of the officials and interested citizens of the cities of Los Angeles, South Pasadena and Pasadena, the last State Legislature designated this Arroyo Seco Parkway as a secondary highway in the State Highway System. This action makes the project eligible to receive allotments from the city's share of the gasoline tax in the three cities mentioned, and funds have already been set aside by the cities of Pasadena and South Pasadena for starting work on surveys, plans and acquisition of rights of way.

The city of Los Angeles, with emergency Federal funds, has already done a large amount of work in constructing a paved channel to take care of the Arroyo Seco drainage between Avenue 52 and San Pascual Street in South Pasadena. In connection therewith they have graded a considerable portion of the roadbed for the Arroyo Seco Parkway.

The Los Angeles officials expect this WPA project to continue, and are hopeful that the entire channel will be paved within the coming year.

EVERY HOUSE MAY HAVE ITS OWN THEATER

RADIO AND TELEVISION WILL AFFECT HOME PLANNING

By Lee McCanne, Radio Engineer

AN influence which entertainment instruments will have on homes of the future is the probable development of some room of the house as the "Theater" of the home. Its walls will be lined with printed books, talking books, motion picture film humidors and possibly phonograph records on book shelves and racks. Its windows will be capable of quick curtaining to provide semi-darkness. It will contain the picture screen for home talking pictures and television, with a loud speaker located below or behind the screen in order that the actors' voices will come from the natural direction. The room will be furnished with comfortable chairs for members of the household and guests. Space in this room will be at a premium and all unnecessary equipment will be located elsewhere. As the instruments are introduced, they will be connected to the remotely controlled radio system, which will distribute the sound for all. Remote control, while primarily largely a matter of convenience, will result in the more widespread practice of concealing the essential apparatus. This practice will in turn make the appearance of the apparatus cabinet of secondary importance.

The complete home will probably have the following electrical instruments for recreating musical programs:

1. Radio broadcast receiver.
2. Short wave receiver.
3. Automatic record-changing phonograph.
4. Talking movies.

These await the establishment of good film libraries, with low rentals, for a much wider acceptance.

5. "Talking Books."

Europe in general and Austria in particular are far in advance of America in this development. "Talking Books" are sound recordings, without pictures, on film. The film can be narrow strips of glossy white paper, or transparent cellophane or Kodapak. They can be printed in ink, by contact methods, instead of expensive photographic processes. Soon they will teach us language lessons with perfect pronunciation and inflections, tell fairy stories to the children, dramatize plays for us with no eye-strain, and educate the blind.

6. Television.

We may also have electrical instruments for **creating** music, such as

1. The electric organ-piano.
2. A carrillon of chimes.

It is obvious that such an imposing array of instruments cannot all be housed in one cabinet. Indeed, it may be difficult to accommodate them all in one room. Looking forward toward this situation, certain radio manufacturers already have improved remote control devices to the point where the radio broadcast receiver today may be operated from a distance. The radio receiver may be located in any room or rooms at will. More remarkable still, the radio apparatus, housed in a protective steel locker, may now be placed in any out-of-the-way but accessible place if it is found desirable to do so.

Since remote control of radio apparatus is already upon us, but so new as not to be generally understood, it may not be amiss to

Abstract of an article in the New England Architect and Builder.

briefly describe the operation of a typical system.

The radio receiver may be housed in a cabinet and provided with manual control knobs, or it may be concealed in a steel locker with only a tuning knob provided for initial adjustments, and thereafter operated by remote control. In either case, a motor unit is fitted to the back of the receiver chassis which carries all motors and gears. A remote control box having a flat, flexible ribbon of wires which can be laid under rugs, or bent inconspicuously over table edges and will not twist or kink, is connected directly into this motor unit, or into baseboard outlets which are connected by intercommunicating telephone type lead-covered cable to the motor unit. The control circuits operate at low voltage and do not require conduit. Control of the system may also be had at small panels mounted on the wall with the intercommunicating cable brought directly to the panel, and no exposed cordage. As many as one hundred control positions may be provided. From each control position it is possible to:

1. Start or stop the radio or an electrical phonograph.
2. Control volume of either the radio or phonograph.
3. Switch as many as four loud speakers "on" or "off" from each control position.
4. Tune silently and automatically to eight stations.
5. Tune silently to all other stations, with a visual tuning meter to indicate when the receiver is tuned accurately.
6. Tune to a powerful local station from a weak distant station without change of volume.
7. Talk to any other room in the house.

If the system employs no more than four loud speakers of the type which draws current from an A. C. line, it is possible to turn them all off in the same operation which stops the radio or phonograph. "Master" control is possible at the manual knobs of a console type radio receiver, where the operator may take control of everything but the switching on and off of loud speakers, away from other operators at remote positions.

Automatic record-changing phonographs are now capable of providing nearly a three-hour program without attention or repetition. The cabinets have been improved to muffle mechanical noises formerly so objectionable when the listener was in the same room as the instrument. Remote control of the phonograph makes it possible to divorce the phonograph from the radio cabinet and even to remove it from the living-rooms. Nevertheless, for convenience in reloading the record magazine, the phonograph should not be removed too far from these rooms.

It is probable that the phonograph instrument will ultimately come to rest in a small end table cabinet against the wall, or beside an easy chair. It will plug into a baseboard outlet receptacle for connections to the distant radio receiver.

Future home entertainment instruments will make use of sound, either as the major part of the program or for sound effects synchronized to pictures.

ARCHITECTS' BULLETIN

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Northern Section

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CONVENTION FORUMS

The response of other branches of the building industry, to our invitations to participate in conference at Del Monte, has been prompt and gratifying. In one or two cases, when other affairs prevented personal acceptance, a substitute speaker was courteously offered. From several sources came spontaneous voluntary offers—in one instance, it was proposed to send to Portland, Oregon, for a certain expert. A long journey to Del Monte for a ten minute talk! Which all means, that the industry recognizes both the value of co-operation, of mutually exchanging information and opinions—and also, specifically, the timeliness and interest of the subjects chosen for these Forums.

All of which, again, augurs well for the success of the 1936 Convention, and for a larger attendance than has been feasible these last few years.

* * *

DRAFTSMEN'S BUREAU

Our office secretary, Miss Kragen, is still spending considerable time in answering calls for draftsmen, and trying to fit the right man to the right place. Her inexhaustible interest and energy are rapidly carrying her into the Future-architects'-friend-mentor-and-guide class, along with Miss Sprague of the "Ark" and Mrs. Cathcart at the State Board office. This clearing-house function of the S.A.C.A. office is a "Natural" and should be even more generally used. Every architect needing help should apply first of all to this central bureau, where during the past year 140 draftsmen have registered and filed records of their training and experience. It seems hard to credit a recent instance—in which a draftsman, registered in our office, secured a position with a local architect through a commercial employment agency, involving unnecessary expense. The Association service is, of course, without charge: both architects and draftsmen are expected to avail themselves of its facilities. Miss Kragen is always in the office week-days from 9-12 A.M. The telephone is Douglas 4561; the address is 557 Market Street, San Francisco.

CONVENTION HEADQUARTERS, HOTEL DEL MONTE, DEL MONTE, CAL.

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MURAL EXHIBIT

Murals by Henrietta Shore, commissioned by the U. S. Treasury for the Santa Cruz Postoffice, may be seen during the Convention at the Monterey High School.

STATE ASSOCIATION OF CALIFORNIA ARCHITECTS.
NINTH ANNUAL CONVENTION
HOTEL DEL MONTE—OCTOBER 15-18, 1936.

THURSDAY, October 15th:

6:00 P.M. Joint Meeting of Executive Boards, North and South, and State Board of Architectural Examiners.

FRIDAY, October 16th:

9:00 A.M. Opening Session, President William I. Garren presiding.
Appointment of Committees.
Report of Executive Board, Pres., Sec., and Treas.

2:00 P.M. Open Session, under the joint auspices of the Producers' Council Clubs of California and the State Association of Californian Architects; Presidents W. I. Garren and A. W. Scott, presiding.

Three Forums.

1. "More Permanent Building Values."
   Speakers: Russell G. Smith, Cashier Bank of America N.T. & S.A.
   Alfred B. Swinerton, Regional Director F.H.A.
   H. E. Root, Secretary Producers' Council Club, No. Cal.
   F. D. Prescott, Director National Lumber Dealers' Assoc.
2. "The Influence of Modern Developments on California Architecture."
   Speakers: Howard Moise, Prof. School of Architecture, U.C.
   William W. Wurster, A.I.A.
   H. Roy Kelley, A.I.A.
   Eugene Weston, Jr.
3. "Building Industry Relationships."
   Speakers: D. H. Ryan, Sec. California State Council of Carpenters.
   W. E. Hague, Sec. Mgr., Assoc. General Contractors of America, Central California Chapter.

6:15 P.M. "Hospitality Hour" in the Tower Room.
(Divertissement)

7:15 P.M. Convention Dinner, Harris C. Allen, A.I.A., presiding.
Musical Program:
Mildred Baldwin, Soprano.
Marsden Argall, Baritone.
Frederic Saatmann, Pianist.
Address by Guest Speaker.

SATURDAY, October 17th:

9:00 A.M. Business Session, Vice-Pres. Lester H. Hibbard presiding.
Report of Executive Board.
Report of Resolutions Committee.
Elections of Officers.

1:00 P.M. Golf Tournament, Del Monte Golf Links.

6:15 P.M. Hospitality Hour.

7:00 P.M. Golf Dinner, A. Appleton, A.I.A., presiding.

SUNDAY, October 18th:
Goodby, until we meet again.

NOTE: Ladies and guests are welcome at all open functions.

THE SPIRIT MOVES

In a recent issue of "Pencil Points" some decidedly caustic comments on our profession were made by Ralph Walker, F.A.I.A., brilliant apologist for modern methods. He says, in part:

"The training of the architect does not seem to encourage, as a usual thing, the making of a scientific and dispassionate statement of the knowable facts of the problem before attempting its solution in design.

"The attempt at a reasonable statement, the necessity of writing a factual program before putting pencil to paper, should in these days seem primary, for it is almost axiomatic that unless this is done the results are banal and lacking in intelligent direction.

"The absence of this basic procedure must only lead to day dreaming or that 'Automatic Writing' which is so commonly known among our brethren as 'seeking for a parti.'

"You know the method.

"A large juicy stick of charcoal held lightly between the fingers and a vacant mind. Both are permitted to wiggle nervously over a large piece of white paper. Both are guided and directed vainly by the hope of an exterior inspiration bursting in upon the vacuity with the sudden incandescent light of genius whereupon a brilliant scheme is born, but it is always a pattern, as under these circumstances it needs must be, surprisingly similar to some ancient or other well known existing examples.

"This method is a favorite of the draftsman-designer, the one who loves to draw and whose ability too often stops at the wrist. . . .

"A new philosophical pattern needs development in architecture and it might be planning concepts. Planning which is based on the logic of the human need. This logic can be scientific in its basis and in its scope. Every need for a plan is a field which can be scientifically explored and the results charted.

"From the logic of the need there can develop principles and facts to guide and determine the plan.

"A plan thus generated will at least be intelligent.

"A plan not so generated can only denote reaction in these days."

No one will deny the truths that are contained in these statements. But it is equally safe to say that they do not contain the **entire** truth. In scientific studying of human needs, **psychology** must be added to **philosophy.** Much can be said on this subject—in fact, much has been, and, no doubt, will be said. Thought, rather than talk is needed; and here is a challenge to thought.

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NEW ADVISORS

Results of the mail ballot for new San Francisco Advisors are as follows:

Harris C. Allen, G. Fred Ashley, John G. Ballantine, Jr., John E. Dinwiddie, Samuel L. Hyman, Charles F. Maury, James H. Mitchell, Frederick H. Reimers, Dodge A. Riedy, William H. Toepke.

Oakland has elected Earl R. MacDonald and Edward O. Blodgett.

Berkeley re-elected Gwynn Officer (who thus serves as President of the Berkeley Society of Architects).

New Advisors in other Districts:

Stockton—Eric Johnson.

North Bay—Edward R. French (Mare Island).

San Jose—Chester O. Root.

Fresno—Rafael Lake.

THT BAR, NEW TAP ROOM, DEL MONTE HOTEL

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ANONYMOUS CRITICISM

On one ballot received in the San Francisco District was recorded no vote, but (pencil-printed) the stern accusation "Why do you always have the same bunch of incompetents?" With some confusion, we perused the list of candidates (none, we hasten to add, nominated by himself) and found that alas! it was but too true; several had indeed held office before, even repeatedly. But as we read on, we discovered with relief five names never previously put in nomination —and three of these belonging to definitely new architects, almost in the neophyte class, architectural ingenues, brilliant youngsters who are already making their mark. Could it be that the nameless critic knew not whereof he spoke? Or did he lump them all together as "Birds of a Feather?" We shall probably never find out; not even the nature or degree of the said incompetence. There is created, however, a new incentive for the new group of Advisors—to show such diligence that next year will not bring the merciless message "Newer and Greater Incompetents!"

W. H. LOWE PRESIDENT OF PARAFFINE COMPANIES, INC.

In recognition of 32 years of faithful service, Paraffine Companies, Inc., has named W. H. Lowe its president to succeed R. S. Shainwald who becomes Chairman of the Board. For some years past Mr. Lowe has been Vice-President and General Manager and prior to that time he served the company in both production and sales management.

Retirement of Mr. Shainwald from the presidency and the selection of Mr. Lowe as his successor does not portend a change in company policies, it being stated that Mr. Shainwald will remain active in its affairs in his new capacity as Chairman of the Board.

The Paraffine Companies, Inc., is the largest far-western industrial; manufacturing and distributing nationally its linoleums and asphalt base floor coverings, as well as Mastipave for industrial floors. West of the Rockies and throughout the foreign nations bordering on the Pacific Ocean, Pabco roofings, paints, and building products have been marketed for more than a half century. The Paraffine Companies, Inc., is one of the largest exporters out of the Port of San Francisco. Its most important affiliates is Fibreboard Products, Inc., one of the nation's largest manufacturer of corrugated and solid fibre containers, cartons, etc.

GYMNASIUM AND SWIMMING POOL

The agricultural college of the University of California at Davis has received an appropriation of $286,000 for a gymnasium and swimming pool. W. C. Hays, First National Bank Building, San Francisco, is preparing the plans which call for a reinforced concrete structure with steel sash and maple floor. The swimming pool will be 60 by 100 feet.

MANTECA THEATER

A new theater and store building will be erected at Manteca from plans by Mark Jorgensen and O. A. Diechmann, 321 Bush Street, San Francisco. The $45,000 building will be air conditioned.

SAN FRANCISCO FLAT BUILDING

Two flats of five rooms each and costing $15,000 will be built on Francisco Heights, San Francisco, from plans by Messrs. Williams and Wastell of Oakland.

BERKELEY RESIDENCE

Fred L. Confer, architect of Berkeley, has completed plans for a $9500 residence for Mrs. William Newton to be built on Miller Avenue, Berkeley.

ADVERTISING

(Robert H. Orr in Southwest Builder and Contractor)

The State Association of California Architects (Southern Section) through its Architects Department in Southwest Builder and Contractor and more recently the Northern Section, through its Architects' Bulletin in The Architect and Engineer, are working along lines that are entirely free from advertising supporting their enterprise directly. They are not only free but they take the position, because of their close co-operation with Architects Daily Report Service, that they will not sponsor, endorse or support any new advertising venture that has to do with depending upon the producer for success. They feel justified, because of this mutual co-operation, and because these two publications cover practically the building industry in the entire State.

In saying that no longer should the producer and building industry be subject to unwarranted appeals for advertising matter except through recognized and legitimate channels, the Southern Section is endeavoring to place in the hands of every practicing architect their official publications and the Northern Section is trying to do the same thing. The architects should recognize that here are two outstanding publications, each in its own particular field, for the dissemination of knowledge relative to materials, construction and equipment that can apparently meet every want and why should there be any duplication of effort or paralleling necessary in advertising.

To the material men, producer and others this should be a harkening declaration on the part of the architectural profession. No longer should he doubt the value of his effort to advertise in those mediums sanctioned and approved by an organization with state-wide affiliations and purposes that tend toward the best interest of all concerned. In this way we will conserve our resources to the extent that market values will depend upon production, manufacturing and construction without unjustifiable excesses to be carried for complimentary advertising.

SAN FRANCISCO APARTMENTS

Preliminary drawings are being made by Albert H. Larsen, 333 Kearny Street, San Francisco, for two six story apartment buildings to contain 36 three and four room apartments and to cost $200,000 each. The same architect has completed plans for a $7500 house in Millbrae for J. M. Johnson and a $9,000 residence in the Marina Tract, San Francisco, for W. C. Muggs.

SANTA MONICA RESIDENCE

Messrs. Dorr, Selkirk & Gibbs, 906 Architects' Building, Los Angeles, are preparing working drawings for a two-story Spanish type residence to be built on Franklin Street, Santa Monica, for a client.

With the Architects

ALTER CAFE AND MARKET

Hibbard, Gerity & Kerton, 1106 Architects' Building, Los Angeles, are preparing working drawings and specifications for altering and adding to the cafe and market building on Roosevelt Highway, Malibu Beach, for the Marblehead Land Co. The work will consist of installing new front, altering interior of existing structure, converting present market into additional cafe room and constructing new market addition.

BRICK VENEER RESIDENCE

Hibbard, Gerity & Kerton, 1106 Architects Building, Los Angeles, have completed working drawings for a two-story residence at 143 S. Rossmore Avenue, Los Angeles, for Quincy Cass. The house will be of frame construction with brick veneer exterior and will contain nine rooms; split wood shingle roofing, metal sash, filtered forced air heating, three tile and rubber tiled bathrooms, integral garage, etc.

$60,000 RESIDENCE

Roland E. Coate, 701 Architects' Building, Los Angeles, is preparing plans for a two-story, Georgian type residence to be built at Encino for John W. Troll. It will be of frame construction with plaster exterior and will contain approximately 12 rooms. A concrete and tile swimming pool is included in the project and a guest house and stables will probably be erected later. The estimated cost is $60,000.

TO REMODEL STORE

A. R. Walker and P. A. Eisen, 708 Pacific Commerce Building, Los Angeles, are completing plans for remodeling the building at 431 S. Broadway, Los Angeles, occupied by the F. W. Woolworth Co. The building will abut a new two-story structure to be built at 428-34 S. Hills Street.

SCHOOL AUDITORIUM

A. R. Walker and P. A. Eisen, 708 Pacific Commerce Building, Los Angeles, are preparing working drawings for a school auditorium, 54x98 feet in area, and locker rooms at Templeton, San Luis Obispo County, for the Templeton Union High School District.

HOTEL ADDITIONS

A. R. Walker and P. A. Eisen, 708 Pacific Commerce Building, Los Angeles, have started the preparation of plans for additions and alterations to the Reynolds Hotel in Riverside for the California-Western States Life Insurance Co.

EDWIN L. SNYDER BUSY

New work in the Berkeley office of Edwin Lewis Snyder includes a California Colonial house on Scenic Avenue, Berkeley, for Lawrence Lewis; residence in Woodmont Avenue for W. Medcraft; Mexican style house in North Berkeley for Mrs. Harold Keith; Spanish style house on Spruce Street for Fred Burgess and a number of other dwellings ranging in cost from $6,000 to $11,000.

YOSEMITE PARK BUILDINGS

Three new buildings will be erected in Yosemite Park before the next vacation season. Eldredge T. Spencer of San Francisco has completed plans and a contract has been awarded to F. C. Stolte of Oakland, to build an employee's dormitory of 30 rooms and two apartment buildings, containing nine 4 room and eight 2 room apartments.

BAY BRIDGE TERMINAL

Plans for the new terminal building for the San Francisco-Oakland Bay Bridge are expected to be ready for contractors to figure early in January. The drawings are being made by the bridge architects and engineering department and will provide for a three story reinforced concrete structure, 700 feet long, with steel frame and garage accommodations for 600 cars.

SANTA CRUZ MEDICAL BUILDING

W. W. Wurster, Newhall Building, San Francisco, has completed plans and awarded a contract for a one story frame and stucco medico-office building for Drs. Phillips and Randall, Santa Cruz. Mr. Wurster has also finished drawings for a modern hillside dwelling to be built in the Russian Hill Section of San Francisco.

OFFICE AND DISPLAY BUILDING

The Coast Counties Gas & Electric Company of Santa Cruz will spend $8,000 constructing an office and display building at Los Banos, Merced County. The one story concrete building will be air conditioned. Alben Froberg of Oakland is the architect.

DAVIS STORE BUILDING

Messrs. Starks and Flanders of Sacramento are preparing working drawings for a one story reinforced concrete store building, 150 by 90 feet, at Davis, Yolo County, for R. A. Wells and E. S. McBride of the Davis Lumber Company. There will be five stores.

CARLETON WINSLOW IN MEXICO

Carleton Monroe Winslow, of Los Angeles, recently departed for Mexico to secure works of art by native craftsmen which will be featured in the new Chapman Park Hotel pueblo project in Los Angeles.

In keeping with the pueblo theme of the enterprise, Mr. Winslow plans to secure additional creations in iron gates, works of art, vases, and tile paintings. Each of the bungalows will contain numerous pieces in keeping with their Spanish atmosphere. Other relics will be added to the present collection of antiques secured from Spain, South American countries and Asia which will be included in the exhibit room of the chapel.

Mr. Winslow plans also to visit the area of Mr. Alabam where mounds containing relics of buried cities are being excavated.

PACIFIC MANUFACTURING COMPANY WINS

In a decision handed down by the California supreme court a ruling of the appellate court ordering the controller of San Francisco to certify a claim by the Pacific Manufacturing Company for $3375 for millwork furnished on the Marina Junior high school was affirmed. The controller rejected the claim on the ground that the Pacific company had not paid the prevailing wage in San Francisco as required by the city charter. The court held the millwork was a finished product not fabricated at the job site and the transaction was not a contract for public work but a purchase and therefore not affected by the charter provision. Pacific Manufacturing Company had a sub-contract for the millwork from MacDonald & Kahn.

SAN MATEO JUNIOR COLLEGE

George W. Kelham, architect of San Francisco has been commissioned to prepare the master plan of the new San Mateo Junior College plant near the San Mateo high school. Mr. Kelham has planned and supervised the building of many outstanding structures throughout California. He has been supervising architect for the University of California since 1925, and planned many of the buildings on the Berkeley campus, as well as the University of California at Los Angeles.

SUGAR REFINERY

The Dinwiddie Construction Company of San Francisco has been awarded the general contract to construct the main buildings of the new sugar refinery for the Spreckels Sugar Company near Woodland for approximately $2,000,000. Geo. W. Kelham is the architect.

STORE ADDITION

The Martinez Furniture Company will build an extension to its Ferry Street store from plans by A. A. Cantin, architect, 557 Market Street, San Francisco.

SOUTHERN CALIFORNIA CHAPTER

At the September meeting of Southern California Chapter, A.I.A., held in the Clark Hotel, Los Angeles, Herbert J. Powell read an intersting paper on the life of Charles Bullfinch.

Born in 1763 Mr. Bullfinch was termed the first American architect and the man who set the style for churches of Colonial design. Probably his best known buildings are the Massachusetts State House, the Connecticut State House and the National Capitol which was built following the destruction of the old building during the war of 1812. He was a man who was greatly interested in civic affairs and served on the board of selectmen and as chief of police in Boston for a number of years.

Ulysses Floyd Rible and Manfred DeAhna, new associate members of the Chapter, were greeted by John C. Austin, who spoke of the architect's obligation to the community and to his profession.

An announcement was made of the annual conference of the Royal Institute of British Architects to be held in Leeds, England, June 23 to June 26, 1937.

Clifford James, member of the West Texas Chapter, was introduced by Paul Robinson Hunter.

OAKLAND APARTMENT BUILDING

For an unnamed client, Irwin M. Johnson, 2215 7th Avenue, Oakland, has completed plans for a two story frame apartment house in Oakmore Highlands to contain four five room apartments. The improvements will cost $25,000. Mr. Johnson also has an apartment house for Mrs. Howard to be built at 5th Avenue, Ivy Street and Park Boulevard, Oakland.

NEVADA ENGINEERS REGISTER

One hundred and thirty-nine civil engineers have been registered in Nevada under the law enacted at the last session of the State Legislature, it is reported by A. R. Thompson, secretary of the State Board of Registrations. Amendments to the law making its provisions more stringent are already urged by professional engineers.

STOCKTON ARCHITECT BUSY

The office of Joseph Losekann, 1218 West Harding Street, Stockton, has completed plans for a $13,000 house to be built in Oxford Manor, Stockton, for Fred Serroggiaro, and working drawings are under way for a two story and basement club house at Los Banos for the Portuguese D.E.S. Society to cost $30,000.

PROVISIONAL CERTIFICATES

At the September 29 meeting of the State Board of Architectural Examiners the following were granted Provisional Certificates: Frank Wynkoop, 125 N. Angus Street, Fresno; W. Allen, Sir Francis Drake Hotel, San Francisco, and Curtis C. Maybach, 2430 Oregon Street, Berkeley.

STRUCTURAL ENGINEERS CONVENTION

Some 200 members of the Structural Engineers Association of California are planning to attend the fifth annual convention of the Association at Santa Maria Inn, Santa Maria, October 16, 17 and 18. Members not provided with transportation are requested to get in touch with H. B. Hammill, 381 Bush Street, or W. E. Emmett, Sharon Building, San Francisco.

The following tentative program has been prepared:

Friday—October 16

9:00 A.M. Registration

10:00 A.M. General Assembly
- Call to order by President Murray Erick
- Minutes of previous meeting
- Presidential address
- Report of Secretary-Treasurer

Appointment of Convention Committees

Announcements

12:30 Noon Lunch

1:30 P.M. Re-assembly
- Statistics on insurance, both fire and earthquake, for various types of buildings in representative districts—By John E. Shield
- Financial Problems of Construction —By Robert L. Gordon, Bank of America

Discussion

6:30 P.M. Informal Dinner

8:00 P.M. Proposed Legislation — Report of Chairman—North and South

Report from Division of Architecture on progress made toward adoption of revised Appendix A—By Clarence A. Kromer

Saturday—October 17

9:30 A.M. Report of Professional Training Committee, Structural Engineers Association of Northern California—A. V. Saph, Jr. Chairman

Fees, by Jesse Rosenwald, Chairman of Committee, Structural Engineers Association, Northern California

12:30 P.M. Golf Tournament—North vs South—Prizes—or go as you will

7:30 P.M. Banquet—Ford J. Twaits—Toast Master.

Sunday—October 18

To be announced later.

The Northern California Section of the Structural Engineers Association holds its regular monthly meeting with the Pacific Coast Building Officials Conference October 6, first visiting the San Francisco-Oakland Bay Bridge, followed by lunch at the Los Medanos Hotel, Pittsburg, and a visit to the steel mills of the Columbia Steel Company.

NEW THEORY OF DEPRECIATION

Most treatises on economic depreciation of buildings have been based on physical exhaustion, beginning at end of first year with 1½% on fireproof, 2% on brick and 3% on frame construction. As much as 5% has been allowed for annual depreciation on special classes. Tables used for accumulated depreciation have been straight-line and not equitable for reasonable value appraisals. At 2%, they would wipe out all value in 50 years; yet buildings much older return fair income, demonstrating live market value. Economic depreciation should include not only physical exhaustion but obsolescence and maintenance from all aspects. Current reproductive value, as in income, should get proper consideration against current reproduction cost. This forms a stronger base for figuring accumulated depreciation. At a 2% annual rate, according to Geo. H. Gray in the Brooklyn Realty Magazine, this would show average accumulated depreciation of 9.6% at the end of five years, 18.28% in 10 years, 26.13% in 15, 33.23% in 20, 39.65% in 25, 45.45% in 30, 50.7% in 35, 55.45% in 40, 59.73% in 45, 63.6% in 50, 67.1% in 55, 70.27% in 60, 73.13% in 65, 75.73% in 70, 78.08% in 75, 80.19% in 80, 82.10% in 85, 83.83% in 90, 85.39% in 95, 86.8% in 100.

WATSONVILLE SCHOOL

Bonds have been voted for $160,000 by the Watsonville Grammar School district and A. W. Storey, architect of Watsonville, will complete plans as soon as possible for a grammar school unit consisting of 14 class rooms, auditorium and gymnasium. The buildings will be reinforced concrete with tile roofs.

TO BUILD $15,000 HOME

Andrew Dalziel for many years engaged in the wholesale plumbing trade, San Francisco, has had plans prepared by Clarence W. Mayhew, 6026 Acacia Street, Oakland, for a $15,000 Colonial residence to be built on Margarita Street, Oakland.

HOLLISTER HOSPITAL

The Supervisors of San Benito County have applied for a PWA grant with which to construct additions to the county hospital at Hollister. Preliminary plans for an $80,000 building have been drawn by Robert Stanton of Del Monte.

TUBERCULAR SANITORIUM

A PWA grant for a new ward building at the Springville Tubercular Sanatorium has been approved and plans for the structure are being prepared by Ernest J. Kump of Fresno.

ARCHITECT SCORES WOMEN CLIENTS

A woman's place may be in the kitchen but her ideas of its arrangement are "crazy," R. C. Hall, architect of St. Louis states in a discussion of style trends in houses, in the Monthly Bulletin of the Michigan Society of Architects.

"The men—God bless them—are the saving grace," he said. "They tell their wives they're crazy—which they are.

"Women always want some silly little arrangement they've seen before. Usually it's the sink-stove-table-in-a-row of a two-by-four apartment which they thought was 'cute' and you can't explain there is such a thing as a handy arrangement which would leave wall and window space.

"However, you can sell a woman anything if you tell her it's easy to clean. That's why metal surfaces in kitchen furnishings are coming into extensive use."

Hall's outburst against feminine architectural idiosyncrasies is matched by another St. Louis architect, William B. Ittner, who tells how women are going in for gaudy furnishings in other rooms.

"Modern woman often wants tinted bathrooms in similar or harmonizing colors," he says.

Both architects agree there is a trend toward a living-dining room, with a screened recess for meals; more natural light, and a desire to utilize every inch of space in the generally small rooms to the best possible advantage.

Recreation rooms? A passing fad, says Hall. No, a necessity as a place for a bar, replies Ittner.

As for the exterior design, it also will eventually go modern. There is a gradual swing from the traditional type of architecture.

Although many Americans are old-fashioned and sentimental in building a home, Hall said he believes strong salesmanship will win them over to newer designs.

Ittner advances the argument in favor of the more modernistic houses that many economies can be effected by doing away with exterior adornment.

In Chicago people are the most open minded, according to Hall.

"They want new things there and that's what the architects want to give them."

BANK BUILDING REMODEL

Some extensive remodeling is being done to the Farmers and Merchants Savings Bank Building at 13th and Franklin Streets, Oakland, from plans by W. P. Day, Financial Center Building, San Francisco.

RESIDENCE WORK

Residence work in the office of Wm. I. Garren of San Francisco includes a $5,000 dwelling in Oakland for Mr. Fletcher; a $10,000 house in San Rafael for Louis Becker and a house in Los Altos for Paul Roller.

PERSONAL

David R. Myers, who is continuing the practice built up by his father, the late **David J. Myers,** has moved into his redesigned studio at 432 Central Building, Seattle.

Donald Dwight Williams, Seattle architect, recently opened a downtown office at 1300 Textile Tower, Seventh Avenue and Olive Way. He is a graduate of the U. of W. School of Architecture, class of 1933.

Paul A. Boothe, professional engineer and graduate of Armour Institute, Chicago, has opened an office for handling design of residential, commercial and public buildings at 311 West Holly Street, Bellingham, Washington.

Martin C. Parker has moved his office from 218 E. First Street, to 120 E. Third Street, Long Beach.

Albert J. Schroeder has moved his office from 143½ S. Beverly Boulevard, to 102 S. Robertson Boulevard, Beverly Hills.

Frederick Scholer has moved from 811 W. Seventh Street to 845 S. Gramercy Place, Los Angeles.

Claud Barton, architect of Oakland, was one of the runners-up in the state championship doubles competition at the lawn bowling tournament in Los Angeles last month.

W. Adrian, structural engineer of San Francisco, is convalescing after a severe illness which followed a sudden attack the latter part of September.

David H. Horn, architect, announces an office for the practice of architecture at 433 Rowell Building, Fresno.

WASHINGTON STATE CHAPTER

Fall and winter meetings of Washington State Chapter, A.I.A. were resumed Sept. 3 at the College Club, Seattle, under the direction of President Lance E. Gowen, U. of W. faculty member. Eleven applications were read by Secretary William J. Bain as received from practicing architects residing in various cities throughout the state.

Merits of the designs submitted in the recent national competition conducted by the Oregon State Capitol Reconstruction Commission were the subject of extensive discussion. Several drawings submitted by Chapter members were displayed. Another topic was the proposed Seattle city ordinance to place a 3′ minimum sill height limit on public buildings.

Announcement was made that regular meetings will be held the first Thursday in each month and that the publication of the monthly bulletin will be resumed. The executive board is preparing a schedule of topics for coming sessions.

CHURCH ADDITION

Arnold Constable of San Francisco has completed plans for a $25,000 addition to the St. Vincent Ferre church, at Florida and Sacramento Streets, Vallejo.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.

Brickwork—

Common, $40 to $45 per 1000 laid, (according to class of work).

Face, $75 to $90 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.10 lin. ft.

Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)

Brick Veneer on frame buildings, $ .75 sq. ft.

Common f.o.b. cars, $12.00 job cartage.

Face, f.o.b. cars, $45.00 to $50.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 84.00 per M
4x12x12 in.	94.50 per M
6x12x12 in.	126.00 per M
8x12x12 in.	225.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots.

8x12x5½	$ 94.50
6x12x5½	73.50

Discount 5%.

Composition Floors—18c to 35c per sq. ft. In large quantities, 16c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c per sq. ft.

Terazzo Floors—45c to 60c per sq. ft.

Terazzo Steps—$1.60 lin. ft.

Concrete Work (material at San Francisco bunkers)—Quotations below 2000 lbs. to the ton, $2.00 delivered.

No. 3 rock, at bunkers	$1.80 per ton
No. 4 rock, at bunkers	1.75 per ton
Elliott top gravel, at bunkers	2.10 per ton
Washed gravel, at bunkers	2.10 per ton
Elliott top gravel, at bunkers	2.10 per ton
City gravel, at bunkers	1.75 per ton
River sand, at bunkers	1.80 per ton
Delivered bank sand	1.20 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.

Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.

Cement, 2.50 per bbl. in paper sks.

Cement (f.o.b. Job, S. F.) $3.00 per bbl.

Cement (f.o.b. Job, Oak.) $3.00 per bbl.

Rebate of 10 cents bbl. cash in 15 days.

Calaveras White ..... $6.00 per bbl.

Medusa White ..... $8.00 per bbl.

Forms, Labors average $40.00 per M.

Average cost of concrete in place, exclusive of forms, 35c per cu. ft.

4-inch concrete basement floor ..... 12½c to 14c per sq. ft.

4½ inch Concrete Basement floor..... 14½c to 16c per sq. ft.

2-inch rat-proofing ..... 7½c per sq. ft.

Concrete Steps ..... $1.50 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 15c per yard.

Membrane waterproofing—4 layers of saturated felt, $4.00 per square.

Hot coating work, $1.80 per square.

Medusa Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $7.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 50 cents; clay or shale, 80c per yard.

Teams, $12.00 per day.

Trucks, $20 to $25 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $85.00 per balcony, average.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.

Quartz Lite, 50c per square foot.

Plate 75c per square foot.

Art, $1.00 up per square foot.

Wire (for skylights), 35c per sq. foot

Obscure glass, 26c square foot.

Note—Add extra for setting

Heating—

Average, $1.90 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site).

No. 1 common	$34.00 per M
No. 2 common	29.00 per M
Selection O. P. common	39.00 per M
2x4 No. 3 farm lumber	24.00 per M
1x4 No. 2 flooring VG	60.00 per M
1x4 No. 3 flooring VG	50.00 per M
1x6 No. 2 flooring VG	60.00 per M
1¼x4 and 6, No. 2 flooring	65.00 per M

Slash grain—

1x4 No. 2 flooring	$48.00 per M
1x4 No. 3 flooring	40.00 per M
No. 1 common run T. & G.	33.00 per M
Lath	7.00 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.10 per bdle.
Redwood, No. 2	.90 per bdle.
Red Cedar	1.00 per bdle

Hardwood Flooring (delivered to building)—

	13-16x3¼" T & G	13-16x2¼" T & G	⅝x2" T & G	S-16x2" Sq. Ed.
13-16x3¼" T & G Maple	$120.00 M ft			
1 1-16x2¼" T & G Maple	132.00 M ft			
⅞x3½ sq. edge Maple	140.00 M ft.			
Clr. Otd. Oak		$200.00 M	$150.00 M	$180 M
Sel. Otd. Oak		140.00 M	120.00 M	135 M
Clr. Pla. Oak		135.00 M	107.00 M	120 M
Sel. Pla. Oak		120.00 M	88.00 M	107 M
Clear Maple		140.00 M	100.00 M	
Laying & Finishing		13c ft.	11 ft.	10 ft.

Wage—Floor layers, $7.50 per day.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, 500 ft. roll	5.00
Brownskin Pro-tect-o-mat, 1000 ft. roll	10.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights cast iron, $50.00 ton.

Nails, $3.50 base.

Sash weights, $45 per ton.

Millwork—

O. P. $105.00 per 1000. R. W., $110.00 per 1000 (delivered).

Double hung box window frames, average with trim, $6.50 and up, each.

Doors, including trim (single panel, 1¾ in. Oregon pine) $8.00 and up, each.

Doors, including trim (five panel, 1¾ in. Oregon pine) $6.50 each.

Screen doors, $4.00 each.

Patent screen windows, 25c a sq. ft.

Cases for kitchen pantries seven ft. high per lineal ft., $6.50 each.

Dining room cases, $7.00 per lineal foot.

Labor—Rough carpentry, warehouse heavy framing (average), $14.00 per M.

For smaller work average, $32.50 to $40.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work ..... 29c per yard
Three-coat work ..... 40c per yard
Cold Water Painting ..... 10c per yard
Whitewashing ..... 4c per yard
Turpentine, 80c per gal., in cans and 75c per gal. in drums.
Raw Linseed Oil—80c gal. in bbls.
Boiled Linseed Oil—85c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lbs. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net. wt.	12½c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.75 lineal foot
12-inch	2.00 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.75
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	$ .90
3 coats, metal lath and plaster	1.35
Keene cement on metal lath	1.30
Ceilings with ¾ hot roll channels metal lath	.75
Ceilings with ¾ hot roll channels metal lath plastered	1.50
Shingle partition ¾ channel lath 1 side	.85
Single partition ¾ channel lath 2 sides 2 inches thick	2.75
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	3.00

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.20
2 coats Celaveras cement, brick or concrete wall	1.35
3 coats cement finish, No. 18 gauge wire mesh	1.50
3 coats Celaveras finish, No. 18 gauge wire mesh	2.00
Wood lath, $6.00 per 1000.	
2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.28

¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations. $13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $19.50 ton.
Plasterers Wage Scale ..... $1.25 per hour
Lathers Wage Scale ..... 1.25 per hour
Hod Carriers Wage Scale ..... 1.10 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $65.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $6.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $6.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 to $60.00 per sq. laid according to color and thickness.

Sheet Metal—

Windows—Metal, $2.00 a sq. foot.
Fire doors (average), including hardware $2.00 per sq. ft.

Skylights—

Copper, 90c sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$100 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $80 to $90 per ton cost of steel, average building, $89.00.

Steel Reinforcing—

$100.00 per ton, set. (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00, Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, Etc.—(See Dealers). Asphalt Tile—18c to 28c per sq. ft. installed.

SAN FRANCISCO BUILDING TRADES WAGE SCALE

Recommended by the Impartial Wage Board, June 18, 1936. Effective July 1, 1936

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein. This scale applies only to work on buildings and does not include inside or shop workers.

CRAFT	Journeymen Mechanics
Asbestos Workers	$ 8.00
Bricklayers	12.00
Bricklayers' Hodcarriers	8.00
Cabinet Workers (Outside)	9.00
Carpenters	9.00
Cement Finishers	9.00
Cork Insulation Workers	9.00
Electrical Workers	10.00
Electrical Fixture Hangers	8.00
Elevator Constructors	10.40
Engineers, Portable and Hoisting	9.00
Glass Workers (all classifications)	8.50
Hardwood Floormen	9.00
Housesmiths, Architectural Iron (outside)	9.00
Housesmiths, Reinforced Concrete, or Rodmen	9.00
Iron Workers (Bridge and Structural)	11.00
Iron Workers (Hoisting Engineers)	11.00

CRAFT	Journeymen Mechanics
Laborers (six-day week)	$ 5.50
Lathers, Channel Iron	10.00
Lathers, all others	9.00
Marble Setters	10.00
Millwrights	9.00
Mosaic and Terrazzo Workers (outside)	9.00
Painters	9.00
Painters, Varnishers and Polishers (outside)	9.00
Pile Drivers and Wharf Builders	9.00
Pile Drivers Engineers	10.00
Plasterers	12.00
Plasterers' Hodcarriers	8.00
Plumbers	10.00
Roofers (all classifications)	8.00
Sheet Metal Workers	9.00
Sprinkler Fitters	10.00
Steam Fitters	10.00
Stair Builders	9.00

CRAFT	Journeymen Mechanics
Stone Cutters, Soft and Granite	9.00
Stone Setters, Soft and Granite	12.00
Stone Derrickmen	9.00
Tile Setters	10.00
Tile, Cork and Rubber	9.00
Welders, Structural Steel Frame on Buildings	11.00
Welders, All Others on Buildings	9.00
Dump Truck Drivers, 2 yards or less	6.00
Dump Truck Drivers, 3 yards	6.50
Dump Truck Drivers, 4 yards	7.00
Dump Truck Drivers, 5 yards	7.00
Dump Truck Drivers, 6 yards	7.50
Truck Drivers of Concrete Mixer Trucks:	
2 yards or less	6.50
3 yards	7.00
4 yards	7.50
5 yards	7.50
6 yards	8.00

GENERAL WORKING CONDITIONS

1. Eight hours should constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rate rates for such shorter period should be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday, inclusive, should constitute a week's work, except for building laborers.
5. The wages set forth herein should be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs except for intra-city taxes should be paid by contractor.
8. Traveling time in excess of one hour each way should be paid for at straight time rates.
9. Overtime should be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter should be paid double time. Saturdays (except for Laborers), Sundays and Holidays from 12 midnight of the preceding day, should be paid double time. Irrespective of starting time, overtime for Cement Finishers should not commence until after eight hours of work, except that after 12 midnight overtime for cement finishers should be paid at the rate of time and one-half for the first four hours and double time thereafter. Shift work for cement workers should be subject to the provisions of paragraph 11.
10. On Saturday Laborers should be paid straight time up to eight hours. Overtime rates should be paid as specified in paragraph 9.
11. Where two shifts are worked in any twenty-four hours, shift time should be straight time. Where three shifts are worked, eight hours' pay should be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, should be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men then reporting for work should work at straight time. Any work performed on such jobs after midnight should be paid time and one-half up to four hours of overtime and double time thereafter.
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided should be entitled to two hours' pay.
16. This award should be effective in the City and County of San Francisco.

BOOK REVIEWS

By Edgar A. Kerulff

TECHNICAL DRAWING PROBLEMS—By Frederick E. Giesecke; Alva Mitchel, Henry C. Spencer; The Macmillan Company, New York Price: $1.40.

Purely technical; a fine book for student engineers and draftsmen. Well illustrated and should prove an excellent and handy reference volume for engineers.

WHY QUIT OUR OWN—By George N. Peek, and Samuel Crowther; D. Van Nostrand Company, New York. Price: 50c.

Presents a very thorough picture of an adequate program for the American farm and factory. This book was written not in a partisan spirit, but in a sincere effort to remove this vital question from the realm of partisanship and discuss it from the standpoint of an assured basis of facts. The vital question contained in the argument is national prosperity.

THE LIVING GARDEN—By E. J. Salisbury, Ds. C. The Macmillan Company, New York. Price: $3.00.

One of the most worth-while books that has come to the reviewer's desk in some time. It deals with gardens and treats with the whys and wherefores of plants. The book is well written and is understandable to the person who plants his own garden, loves and tends it for the sheer joy to be had in watching growing things, and in the development of favorite flowers. It is splendidly illustrated and indexed.

BOUTIQUES—(2) Portfolio compiled by Delacroix & Lezine; Publishers—S. De Bonadona, Paris; Price: $15.00.

A portfolio of 48 plates, illustrating the latest designs of modern French shops by leading French architects and designers.

All designs are in the modern manner and have been carefully chosen by the compilers, Delacroix and Lezine architects. The plates show interiors, exteriors, plans and elevations, many of the illustrations being in full color, others photographic reproductions.

Among the architects and decorators whose work is shown are Mallet-Stevens, Alfa, Fischer, Leon Bailly and many others.

NEW SMALL HOMES OF CALIFORNIA—First Edition — 1936; Published by — Architectural Book Shop, 816 West Fifth Street, Los Angeles, California. Price — (paper cover) — $1.50; (bound) — $3.00.

This small house plan book contains 51 designs of California houses whose cost varies from about $3500 to $7500 (architect's fee included.)

All designs shown are of excellent architectural quality, attractively presented, each design being illustrated by a photographic reproduction of the main elevation, together with plans and construction data. Among the architects whose work is shown are Garrett Van Pelt & George Lind, Allen G. Siple, Robert H. Ainsworth A.I.A. and many others. There is an introductory preface by Eugene Weston Jr. A.I.A.

We believe that this little book will do much to show the prospective home builder the value of fine architectural design for the small house.

FURNISHING THE COLONIAL AND FEDERAL HOUSE: By Nancy McClelland; J. B. Lippincott Company, Philadelphia; Price: $3.50.

A practical book, definitely planned, for those who desire to furnish in proper taste their homes and at the same time keep the expenses to moderate levels.

Colonial and Federal houses demand special care in the choice of their furnishings and it is here that good taste is more than a necessity, it is paramount. The book is designed for just that purpose—to give valuable assistance; to render the proper dictates of taste without becoming pedantic. Lighting fixtures, colors for drapes, furniture coverings and all details are thoroughly treated.

AUTO SALES BUILDING

Will H. Toepke, Call Building, San Francisco, is completing plans for a one story reinforced concrete auto sales room building for a client in Burlingame. The cost is estimated at $33,000. Mr. Toepke also has plans under way for a four class room building at Baywood for the San Mateo Elementary School District.

POLICE STATION AND JAIL

The City of Burlingame is to have a new one story reinforced concrete police station and jail from plans by Jas. H. Mitchell, architect, of San Francisco. P.W.A. assistance has been asked amounting to $25,000.

WOMEN'S DORMITORY BUILDING

A two wing addition is to be built to the women's dormitory at Stanford University. Construction will be of light welded steel. Plans for the $200,000 improvement are being prepared by Bakewell & Weihe and Arthur Brown, Jr.

SAN JOSE ARCHITECT BUSY

New work in the office of Ralph Wyckoff of San Jose includes a one story frame and corrugated iron garage at Salinas for the Langendorf United Bakeries, Inc., 1160 McAllister Street, San Francisco, and a $12,000 residence in San Jose for Mr. Buchanan.

$20,000 COUNTRY DWELLING

Henry H. Gutterson, architect of San Francisco, has awarded a contract for approximately $20,000 for a ten room residence at Chico, Butte County, California, for M. Adams. The exterior will be brick veneer.

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STORES NEED MODERNIZATION

An analysis of the physical condition and appearance of approximately eight thousand small and medium-sized store and service establishments in 23 selected cities of the United States, has revealed that over half are in need of modernization in varying degrees, according to "Store Modernization Needs," a study made available recently by the Bureau of Foreign and Domestic Commerce, Department of Commerce, Washington, D.C.

While most of the stores included in the analysis are located in the western part of the United States, the cities in which the information was collected were selected on a sampling basis and are, therefore, believed to reflect the approximate general conditions prevailing in other regions of the country, it was stated.

The analysis revealed a generally unsatisfactory appearance of store fronts. The most frequent recommendations call for the painting and refinishing of store exteriors and the installing of new or the replacing of existing outside signs.

Painting or repairing of walls and ceilings and the improvement of store lighting are recorded as the greatest interior needs.

"The object of the study is to present, on the basis of a limited sample, an analysis of the actual physical condition and appearance of small and medium-sized stores and service establishments with appropriate recommendations for improvement," Alexander V. Dye, Director, Bureau of Foreign and Domestic Commerce, said in commenting upon the analysis.

"Although retailers in greater numbers than ever are recognizing that modernization of their establishments is a good investment, the analysis of store needs which has just been completed clearly reveals that existing opportunities for the modernization of retail stores in the United States are great," he said.

"Modernization of the many retail establishments now in need of reconditioning not only would act as a stimulant to general industry and employment but would result in increased sales and profits through the attraction of additional customers to the establishments so improved.

"Modernization is a business proposition which every retailer must consider carefully if he is to retain a strong competitive position in his community."

Apparel stores, the analysis reveals, are in the best condition of all of the groups of retail establishments included in the study, both as to exterior and interior appearances, although it is recorded that approximately one-third of such stores offer an opportunity for improvement.

Among all of the establishments observed for the purpose of the analysis, dry cleaning, pressing, and shoe-repair shops are rated lowest on the impressions given by both exteriors and interiors, nearly three-fourths being rated as "fair" or "poor" in these respects.

Observations included in the analysis indicate that opportunities for modernization of retail grocery establishments are great.

Details for 16 business classifications are recorded in the study and some of the tables are arranged to show differences recorded for different locations within a city, and in accordance with traffic density. The kinds of business classifications are grocery stores; other food stores; general merchandise; farmer's supply and country general stores; apparel stores; automotive groups; furniture and household stores; lumber; building and hardware group; restaurants; eating and drinking places; cigar stores; drug stores; jewelry stores; stationery, book and office supplies stores; miscellaneous retail and second hand stores; barber and beauty shops; dry cleaning, pressing, and shoe repair shops; and mechanical repair and service shops.

In order to assist store operators to plan modernization projects in their own stores, a 10 page check list is reproduced in the report. This check list enumerates practically all of the features in a store which might be subject to physical improvement, either as to appearance or efficiency. For each item listed in the check list a number of possible faults are listed for the guidance of the store owner.

Observations deal with the exterior general impressions of the stores, outside signs, display windows, entrances, and interior general impression. The existence of specified facilities and features are also tabulated, and include outside electric or neon signs, steps at entrance, observations as to the possibility of building ramps to do away with steps, public telephones, telephone booths, wash rooms, mechanical refrigeration, machine equipment, vending machines, cash registers, computing scales, coin operated games, lighted cases, modern fixtures, and structural obstacles.

A discussion is included on the various phases of modernization from a merchandising point of view, and the technique of the study is discussed in such a manner as to guide others in conducting similar surveys.

It is shown that about three-fourths of the grocery and drug stores in the list are using mechanical refrigeration, while 61 percent of the restaurants have this equipment. It is pointed out in this connection that manufacturers of mechanical regriferation equipment will find some justification in this report for directing their principal sales effort to the replacement of existing equipment with new and more efficient models, rather than in the promotion of sales to establishments not now having the equipment.

Washrooms seem to be a minimum requirement in an establishment where people are employed, yet this facility was missing in a sizeable proportion of most kinds of business observed. Eighteen percent of all the stores in the sample have no washroom.

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SKILL - KNOWLEDGE - RESPONSIBILITY

A large majority of the stores observed do not have good exterior electric signs, 34 percent of the stores lacking this feature.

Store lighting was found inadequate in about 29 per cent of the cases.

Apparel stores make a better showing on exterior and interior appearance than any other kind of business surveyed. Nearly one-third of them, however, offer opportunity for improvement. They are frequently reported as needing outside signs replaced or new ones installed. Less than three percent are reported as having such facilities as telephone booths. Twelve percent have no wash rooms. Over one-fourth need the painting or repairing of walls and ceilings and the rearrangement of fixtures. One-fifth of these stores need better or additional interior lighting and better floors.

Drug stores rank first in the use of electric or neon outside signs, public telephones, telephone booths, wash rooms, mechanical refrigeration, cash registers, and modern fixtures. Nearly one-fifth of them need the store fronts painted or refinished, and over 13 percent require the installation or replacing of outside signs. Walls and ceilings need painting or repairing in 30 percent of the drug stores. Nearly one-fourth need new and additional lighting fixtures.

Thirty-seven percent of the grocery stores have steps at the entrance but in nearly one-half of such cases ramps could be built; 25 percent of the stores have no washrooms; 86 percent have machine equipment; 90 percent have cash registers; 91 percent have computing scales; 45 percent need the walls and ceilings painted or repaired; over one-third of the stores need better interior lighting.

Fifty-seven percent of the restaurants have neon or electric outside signs. They made the best showing in this respect of any of the business groups observed. Thirteen percent have no washrooms. It is surprising to find this condition in eating and drinking places. Over 26 percent call for the painting or refinishing of store fronts; nearly two-thirds need some kind of interior modernization. Clean, well painted walls appear to be a minimum requirement for restaurants, but this survey indicates that more than four out of every ten are neglecting this essential consideration. Over one-fourth of the restaurants need new or additional interior lighting and a similar percentage require attention to floors.

DURAY WASHABLE WALL COVERING

C. W. Stockwell Co., Ltd., Los Angeles, announce their appointment as exclusive Pacific Coast distributor of Duray, a new development in washable wall covering. An entirely new line of patterns has been created by Thibault, offering a wide range of selection for every type of room. Duray has a velvet eggshell finish, like wallpaper, and is entirely washable with soap and water, stainless to ink, durable, stainproof.

CELOTEX HAS NEW PRODUCT

An entirely new idea in the building field for assuring greater protection to home-builders and remodelers and to stimulate greater building activity, by guaranteeing insulating efficiency for the life of a building, is announced by Celotex through its President, B. G. Dahlberg.

"According to government surveys," Mr. Dahlberg said in making the announcement, "there is a real need of more and better constructed homes in all parts of the country today. There are now about thirty million dwellings in the United States. Twelve million are in good condition. Twelve million are sadly in need of improvements to make them more liveable. Six million are unfit for human habitation.

"Over five million of the homes now occupied were constructed between 1921 and 1930. These only took care of the increase in numbers of families during that time. Since then, approximately four-hundred thousand new homes have been built. Yet the number of families has increased by about two million."

These figures indicate that 1,650,000 new homes are needed to take care of the new families, in addition to 6,000,000 new homes to replace those unfit for habitation. In other words, the country needs to build 7,500,000 new homes and improve 12,000,000 now standing if the families in America today are to be properly housed.

To help speed up the needed building and improvement activity now getting under way, Mr. Dahlberg said that Celotex would be guaranteed to provide 10 essential insulating and structural advantages that home-builders want and need.

The material is now guaranteed to maintain insulating efficiency for the life of the building, to provide permanent fuel savings, to assure lasting structural strength, and to subdue noise. It is guaranteed to be water repellant, against destruction by termites and dry rot, and to retain its insulating efficiency upon painting or plastering. It is also guaranteed from settling away from the frame work, and to meet the Department of Commerce standards and United States Federal Specifications.

The Celotex guarantee is in writing, and is backed up by all the resources of the manufacturer. It will be offered and distributed through Celotex dealers.

"Our guarantee is not so radical as it may seem," Mr. Dahlberg said. "During the fifteen years we have been manufacturing structural insulation, we have always followed a broad and liberal sales policy. We have frequently revised our merchandising plans to promote increased building activity throughout America, and to provide home-builders and remodelers with the utmost assurance of getting full value on their investments in our materials.

"Why shouldn't the consumer be protected on the material he builds into his home?" Mr. Dahlberg added. "His automobile is guaranteed for 90 days. His

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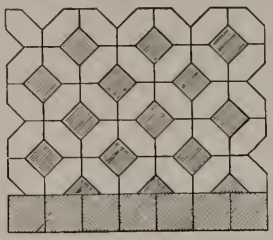

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new refrigerator carries a five-year guarantee. His new roof is probably guaranteed for 20 years. Some day he may even have a guaranteed home. Possibly our guarantee will prove to be the step that will lead to it."

During the next two months the story of Celotex Guaranteed Insulation will be circulated to eighteen million readers through national magazines.

ORIGIN OF NAMES OF COUNTIES IN CALIFORNIA

SACRAMENTO COUNTY—Created February 18, 1850. One of the original twenty-seven counties. "Sacramento" signifies "Sacrament", or "Lord's Supper". Captain Moraga first gave the name "Jesus Maria" (Jesus Mary) to the main river in what now is Northern California, and the name "Sacramento" to one of its tributaries. Later, the main river became known as the Sacramento, while the branch was called El Rio de las Plumas, or Feather river.

Sacramento's county seat, the City of Sacramento, is the capital of California. With its 3883 farms of great productivity, its secondary seaport, airports, three transcontinental railroad lines and hundreds of miles of broad highways, this county is one of the most beautiful and wealthiest sections of the state.

It was on August 12, 1839, that Captain John A. Sutter, Swiss adventurer, landed with six white men and eight Kanakas at the junction of the Sacramento and American rivers and took possession of a grant given him by Governor Alvarado, Mexican Governor of California. His land included a large area of the present city of Sacramento. How he was realizing his dream of empire when one of his men, James W. Marshall, discovered gold at Coloma, and how that discovery caused Sutter's colonists to desert him for the gold fields, how his stock, provisions, tools and wagons were stolen and how, broken hearted, he retired to Mormon Island with a few faithful Indians, later to die in the East penniless, is history. Sutter's Fort, which he abandoned, today is a famous landmark in Sacramento.

Sacramento county's area is practically all a rich alluvial plain. Surveys have established 28 soil types. The county grows and cans 90 per cent of the world's asparagus, produces 25 per cent of California's celery crop, leads all counties in the state in the production of Bartlett pears, grows one-fifth of the spinach crop canned in California, and produces one-third of the state's crop of canning tomatoes. The annual value of the asparagus crop alone is about $4,000,000. In the Delta region of the county, called the "Netherlands of America", every known American vegetable is grown.

Oranges are produced in Fairoaks, Citrus Heights, Orangevale, Carmichael, Arcade and Folsom and the county boasts of huge fruit and olive crops; ranks third in the poultry industry, and dairying and stock

raising are important development factors. Sacramento ranks sixteenth in mineral production and only Nevada and Amador surpass it in yield of gold.

Sacramento River ranks among the foremost streams in the nation in amount of tonnage carried, but occupies first place in per ton value of cargo. Population: 141,991. Area: 983 square miles.

SAN BENITO COUNTY—Created February 12, 1874. Crespi, on his expedition in 1772, named a small river in honor of San Benedicto (Saint Benedict, "the Blessed"), the patron saint of the married, and it is from the contraction of the name of this beloved saint that this county took its name.

With its vast ranches, San Benito originally was a stock county exclusively. Many thousands of head of cattle roamed its great area of undeveloped land. But the richness of its valleys attracted farmers and the county rapidly grew in agricultural wealth. Fruit orchards and farms replaced the huge ranchos. Much of the atmosphere of Old Spain remains, however.

San Benito's valleys produce great crops of hay and grain, fruits, vegetables, nuts and dairy products. Livestock is an important industry. The county has ranked first in the production of quicksilver for many years. Excellent roads and highways traverse its entire area. It is a mecca for hunters and fishermen. It is the home of the Pinnacles National monument, which attracts thousands of tourists. The Pinnacles are one of the wonders of California. Huge needle-like piers of igneous rock, resembling church spires, rise from 600 to 1000 feet above the floors of several canyons, many so precipitous they cannot be scaled. A series of caves, opening into one another, lie under each group of rocks. Population: 11,311. Area: 1392 square miles.

SANTA CRUZ COUNTY BUILDING

Working drawings are in progress in the office of Albert F. Roller, Crocker First National Bank Building, San Francisco, for three modern style reinforced concrete buildings for the County of Santa Cruz, totalling in cost $500,000. The first unit consisting of sheriff's quarters and jail, will cost $180,000.

MONTEREY STORE BUILDING

C. J. Ryland of Monterey is making drawings for a one story reinforced concrete store building, 36 by 218 feet, with restaurant, bar, barber shop and creamery, for E. B. Gross. The cost is placed at $30,000. Mr. Ryland also has working drawings in progress for a $30,000 steel, concrete and terra cotta clothing store at Santa Cruz for Morris Abrams.

CONVENT BUILDING

A convent building for the Star of the Sea Convent will be erected at 8th Avenue and Geary Street, San Francisco, from plans by John J. Foley. The cost is estimated at $60,000.

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AMERICAN VS. EUROPEAN ART AND ARCHITECTURE

American architects do not thrive on regimentation, declares Ely Jacques Kahn, Chairman of the Committee on Allied Arts of the American Institute of Architects. Government bureaus in the United States, he says, produce a mediocre architecture, in contrast to foreign countries.

America might profitably swap some of its technological developments for the spiritual and constructive principles that actuate Central Asia, he points out. Siam is an outstanding example of governmental success in developing a national art and architecture, he finds in a survey embracing the countries of Europe and the East.

"There is, naturally, some question as to the virtue of governmental control of cultural matters, for we have already discovered that, once the state begins to usurp the architect's job, a huge machine develops, and, through a simple process of growth, becomes a juggernaut of sinister possibilities," Mr. Kahn asserts.

"During an emergency—war, for example,—it may be wise to ignore the fate of certain individuals for the good of the state. We find, however, that the grinding of the government's bureaus which produce architecture pulverizes the individual architect coldly and brutally. There is no point on insisting that finer buildings could be erected were their design put in the hands of eminent, trained men. Anyone who has watched the system of bureaus of the city, state or government knows that time is wasted and money is wasted for results which are mediocre for the simple reason that it is a machine which is functioning. One cannot ignore the personality of the artist to the extent that one might desire. He simply does not thrive on regimentation.

"The attention we, in America, give to forestry, land erosion, farm lands, water conservation and roads, is no less intense than might be

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found in less prosperous countries. As a matter of fact, even these highly necessary activities are relatively new in our approach to human relationship. They have become important because after the careless use of rich virgin land it has been discovered that resources cannot be wasted perpetually.

"What we have found necessary with elements that supply food, clothing and shelter, we will also eventually realize as important in those features of our social fabric that support our spiritual welfare.

"In other lands it is customary to find the government actively interested in the arts. France is preeminently known for the encouragement and support it has given. The presence of a representative in the state council, the existence of a national arts school and state manufacturing plants such as that at Sevres, where for centuries fine porcelains have been made, are merely a few of the instances where Frenchmen feel that money is not wasted in helping their artists produce what is, after all, one of the chief commodities of the country—art.

"Governmental buildings, monuments, all of the historical structures of France, are under the architectural control of trained men whose fame and income, incidentally, increase through the application of this system.

"Sweden, Austria, Italy, and Germany have other varieties of support, but in all of these lands the very practical value of guarding artistic assets is noted.

"Siam is one of the few old fashioned kingdoms that remains, in spite of European influence, foreign pressure, business, industry and all of the other advantages of modern development. Siam goes on serenely, strange to our eyes, with its brilliant architecture, its quaint ceremonials and its adherence to tradition.

"It was customary for the royal court to have its own theater, building group, painters, sculptors and artisans, and so it continues. In the royal compound at Bangkok is a large school adjoining the workshops. The school trains craftsmen for the

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"Here is a beautiful case of paternalism where young people are trained thoroughly, can see actual work going on and are absorbed in production as normally as they advance in proficiency. This is perhaps more than we can wish for, but there is basically an idea in giving youth the education that it wants, showing the students how knowledge is applied and finally making it possible to produce.

LOW COST HOUSING

Announcement is made by the United States Gypsum Company of the creation of a specialized department of architectural and engineering service under the direction of E. B. Johnson, formerly manager of the company's contracting division, and for several years active in the public works administration at Washington.

While the newly created department will function co-operatively with architects and engineers toward the most efficient construction of all types of buildings, emphasis will be placed on low cost housing, with special reference to those of the company's materials that can contribute to solution of the problem.

Mr. Johnson's experience over the past several years, first, as Assistant Director, Subsistence Homestead Division, Department of the Interior, and later as Chief of Initiation and Recommendation Branch, Housing Division, Public Works Administration, excellently supplements the work already done by the USG Laboratories.

The problem in low cost small house construction, as presently developed is to add to the wood frame house needed qualities of fire protection and insulation, while retaining the flexibility and economy of the wood frame.

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STANDARD ACCOUNTING SYSTEM

The American Institute of Architects has officially adopted a standard accounting system for architects developed by Edwin Bergstrom of Los Angeles, treasurer of the Institute, and described as "pioneer work in the field of architectural practice".

"The issuance of this accounting system by the Institute indicates the architect's intention to maintain his proper position of dominance in the building operation," says an announcement by the Institute. "It marks recognition of the fact that an architect's functon is much more comprehensive than is generally known.

"At present, uniform and accurate data for intelligent comparisons of the costs of rendering the various architectural services do not exist. The system, which has been in preparation for the past five years, will produce an accurate, informative, and intelligible statement of the financial condition of a business at any date and of the result of its operations for past periods.

"The architect is engaged in the practice of a profession wherein he is dependant on others for the opportunity to create his art and give it form and substance. For such opportunity he is dependent upon the conditions that obtain in the industrial world, and for its successful conclusion he must rely upon his skill in administering the enterprise as well as upon his skill in applying his art. The manner in which he administers the enterprise is the gauge of his business standing.

"Only by means of a uniform accounting system can the architectural profession accurately determine and compare the prevalent costs of performing its various functions and know quite certainly what the cost of doing any particular type of architectural work should be.

"Until such universal cost data is available, the architect cannot determine with confidence what he should receive as compensation for doing any such work. With such

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data available, it may come about that the traditional scheme of charges now prevailing in the profession will be modified or discarded."

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Individual forms provided as standard documents, covering cash journal, voucher register, job cost ledger and insurance register in one binder; general ledger, overhead expense ledger, and construction contract register in the second; and pay rolls in the third.

SALVAGED BRICKS DANGEROUS

As a general rule, bricks taken from old buildings that are torn down do not adhere to mortars. Since it is an established fact that lack of adhesion of mortar to units is one of the principal causes of water penetration through walls and into the interiors of buildings, one should not consider that any economy is effected in using materials which contribute to this condition. Such materials would, in fact, be the most expensive.

Two conditions are always very necessary for getting complete and lasting adhesion of mortars to bricks and other units. The first of these is adhesiveness (bonding power) in the mortar. The second is clean and unglazed surfaces of building units.

In this connection, the term "clean," needs to be explained. It means, of course, a surface free from dirt, dust, soot and grime that are invariably driven into the pore entrances (of microscopic size) during a period of years by weathering agents. When a clean brick or other unit is laid in fresh mortar, lime and cement particles fasten into these pores or capillary entrances and a

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Honolulu, T. H., *Schuman Bldg.*

bond (adherence) is effected. This cannot happen if the capillary entrances are clogged.

But it is further obvious that the old mortar used a wall that is torn down also has filled the pore entrances and minute crevices of the brick or other units. Most of the old mortar that composed the joints in the old wall may be knocked loose from the brick. The salvaged brick may even look "clean" to the eye. They are not so however. Cement and lime particles are embedded in the capillary entrances and such building units cannot bond satisfactorily when relaid in new construction.

CONTRACTORS OPERATING ILLEGALLY

Many contractors of California are unknowingly operating illegally, their bids subject to disqualification if challenged, and their rights to collect for their contracts in jeopardy, according to information in the hands of the State Registrar of Contractors at Sacramento.

The Contractors' State License Law specifically provides that changes of personnel may not be allowed in the organization of a licensed firm. Nevertheless, two low bidders for large public works projects in this State were disqualified during the past thirty days because there had been changes in the personnel of their organizations, and the individual or firm submitting the bid was actually not licensed.

In one case, a copartnership license was secured by father and son in 1931 and renewed each year up to date. In 1932, however, the father dropped out of the firm. The license was renewed by a bookkeeper or employee of the firm, who failed to read the instructions sent out by the Registrar of Contractors in regard to changes of personnel. Since the time of the withdrawal of the father from the firm, the son has been operating as an individual, but under the same name style in which the copartnership originally operated. All of the son's opera-

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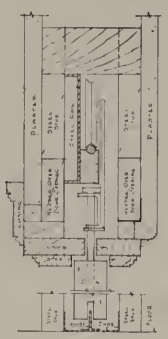

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tions as a contractor, therefore, have been done without the benefit of license, and he would have been unable to go into any court to collect for any of the contract work which he has done in that period of years.

The State Department of Public Works noticed the fact that his prequalification papers showed he was operating as an individual, while the firm was registered by the Contractors' State License Board as a copartnership. The result was that his bid had to be thrown out by orders of counsel for the State. This happens very frequently and is a matter of considerable concern to the Contractors' State License Board as well as to political sub-divisions which must carefully check the legality of every bid.

The state's attorneys have also advised that the wording of the Contractors' License Law as to business operations being carried on by a licensee in the "exact" name in which the license is issued, means just exactly what it says. Thus, J. Doe, the name-style in which Mr. Doe applied for and secured his contractor's license, is the only name which John Doe may use in submitting a bid or signing a contract. If he signs his full name "John Doe" he has not used the "exact" name in which his license is issued. If this ruling stands, every licensee should immediately determine whether or not his license certificate is issued in the exact name in which he carries on his contracting business. If it is determined a change of name should be made, application must be made to the Registrar of Contractors, and the certificate and annual renewal license should be returned for correction.

According to the Registrar the Contractors' State License Board has taken every opportunity available to warn licensees of the provisions of the Contractors' Act, so that they will suffer no loss due to failure to comply with the provisions of the Contractors' Act.

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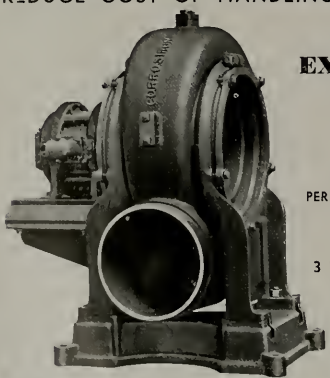

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Applications for government surveys of the entire seacoast of Los Angeles county may soon be filed by both the city and the county, under provisions of the recently enacted United States Beach Protection and Improvement Act, according to reports from municipal Playground and Recreation Department officials who participated in the American Shore and Beach Preservation Association's Conference held in Los Angeles last week.

The Federal act sets up the United States Beach Erosion Board as a body to consider local requests for shoreline protection and development, and to determine what financial assistance the government will give in making the improvements required to preserve public beach areas.

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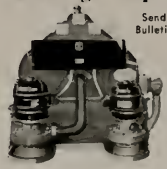

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NIGHT VIEW OF CANTILEVER SPAN, SAN FRANCISCO-OAKLAND BAY BRIDGE FROM YERBA BUENA ISLAND TUNNEL
Photo Bay Bridge Authority

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SAN FRANCISCO-OAKLAND BAY BRIDGE
C. H. Purcell, Chief Engineer

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Notes and Comments

FRANKLY, the architectural profession is puzzled about the future. What with the changing mode of living, popularity of the automobile trailer, etc., it is a matter of deep concern as to just what the next ten years will bring forth for the architect.

In a recent talk before the Illinois Society of Architects, John A. Holabird, prominent Chicago architect, frankly admitted he did not know the trend or drift of our architecture today. He doubted the permanency of our modern contribution and wondered whether the pendulum had not swung too far away from what, through time, had been recognized as true and fine architectural tenets. He contrasted the distinguished modern architects, now growing old or passing, in Sweden, who had developed a modern architecture that held fast to certain nationalistic earmarks, with the men like Gunnar Asplund who, in the 1930 Stockholm Exposition, showed a tendency to free themselves from national taste to the displeasure of men like Ostberg. The speaker referred to the late Tengbom as an extraordinary figure in architecture through his power and influence and whose plans Mr. Holabird much admired. Mr. Holabird thought that today's evidence in baldness of building was not a true expression of our civilization. That civilization contained more than mere baldness. There was light and shade in it and he hoped that through sculpture and modeling our architecture might reach a happier blend of the mechanical with the aesthetic.

* * *

IT COSTS 59.8 per cent more to build a home in San Francisco today than in the depression years of 1932-33, according to statistics compiled by the local technical staff of the Federal Housing Administration.

"Prospective home owners will save several hundred dollars, by building now, because costs are definitely on a sherp upward swing," it was declared by G. F. Ashley, supervising architect for the FHA in Northern California.

"The increase in costs is steady and substantial," he said, "indicative of the firm foundation of the present real estate market and the background of stability of the current home building boom. Largely responsible for this healthy condition is governmental participation to the extent of insuring authorized lending institutions against loss on home loans.

"It is interesting to note that a home which could have been built here in San Francisco for $4200 in 1932-33 would have cost $5844 to build during the first quarter of 1936."

* * *

EMPLOYMENT of an architect is an absolute guarantee that the owner will receive a better "run for his money". Here is a concrete example as related by Howard J. White, architect of Chicago, in the Bulletin of the Illinois Society of Architects:

"A large bank in a midwestern city proposed to build and one of the conditions imposed was that no outside contractors be asked to bid. They had a closed town and wanted no outsiders to come in and teach their local men smart tricks. They were finally prevailed upon by the architect to let one Chicago contractor make a check figure. When the bids were opened, the Chicago contractor was considerably low — so much so that the temptation was too strong for the bankers to resist; he was given the work. His first sub-contract to let was the excavating and here he found that the local men were perfectly familiar with tricks. He could not break the combination, so he called his Chicago office and ordered his yard to get a Northwestern baggage car and knock down four large trucks and ship them with four teams at once. They arrived the next day and were put to work. As soon as the local excavators saw this, they broke and said they did not mean what they said and were willing to agree to a fair price.

"Moral:Competition makes the Olympic Games.

"To summarize:

"The owner is better served by knowing in advance what his obligation totals.

"The owner has better protection if a full day's work depends on the contractor's watchfulness and pocketbook.

"The owner is better served by free and open competition.

"All of these advantages the owner receives when he employs an architect."

* * *

THAT regimentation is not favored by leading architects of this country, is evidenced by the recent comments of Ely Jacques Kahn, chairman of the Committee on Allied Arts of The American Institute of Architects. Government bureaus in the United States, he says, produce a mediocre architecture, in contrast to foreign countries.

America might profitably swap some of its technological developments for the spiritual and constructive principles that actuate Central Asia, he points out. Siam is an outstanding example of governmental success in developing a national art and architecture, he finds in a survey embracing the countries of Europe and the East.

"There is, naturally, some question as to the virtue of governmental control of cultural matters, for we have already discovered that, once the state begins to usurp the architect's job, a huge machine develops, and, through a simple process of growth, becomes a juggernaut of sinister possibilities," Mr. Kahn asserts.

"During an emergency—war, for example,—it may be wise to ignore the fate of certain individuals for the good of the state. We find, however, that the grinding of the government's bureaus which produce architecture, pulverizes the individual architect coldly and brutally. There is no point on insisting that finer buildings could be erected were their design put in the hands of eminent, trained men. Anyone who has watched the system of bureaus of the city, state or government, knows that time is wasted and money is wasted for results which are mediocre for the simple reason that it is a machine which is functioning. One cannot ignore the personality of the artist to the extent that one might desire. He simply does not thrive on regimentation."

* * *

LOW cost small houses of pleasing appearance and enduring quality cannot be built in single units to suit the whims of special clients. This is irrespective of whether the work is organized by architect or general contractor. On these small units, the overhead is proportionately too great. On the other hand, such buildings can be produced in quantity at a low cost, with individual charm of varying aspect and of elastic diversified arrangement. To accomplish these results requires an architect of trained, experienced ability, working without too much client interference (in government projects there is always too much client handicap) and handling as one operation a group of not less than ten, preferably twenty-five houses. To accomplish this program, the architect must so design as to standardize all hidden parts, buy in considerable quantity, through the closest competition but only from contractors of high craft, efficiency and integrity.

* * *

BANKS importuned for real estate loans should keep in mind the fact that such loans are not only desirable as a highly satisfactory source of revenue but they also offer an admirable instrument for building sound, healthy public relations. Through increased real estate lending banks can greatly extend their field of service and strengthen their standing in the community. The bank's facilities are made available to a much larger group than would otherwise be the case, and with every loan the bank has the opportunity to merchandise other services and to make a friend for the institution. As a factor in building good public relations, real estate loans cannot well be overlooked. By supplying their communities with mortgage money, national banks will become more completely a part of those communities and will reap the benefits, not only of an excellent investment medium, but of increased good will.

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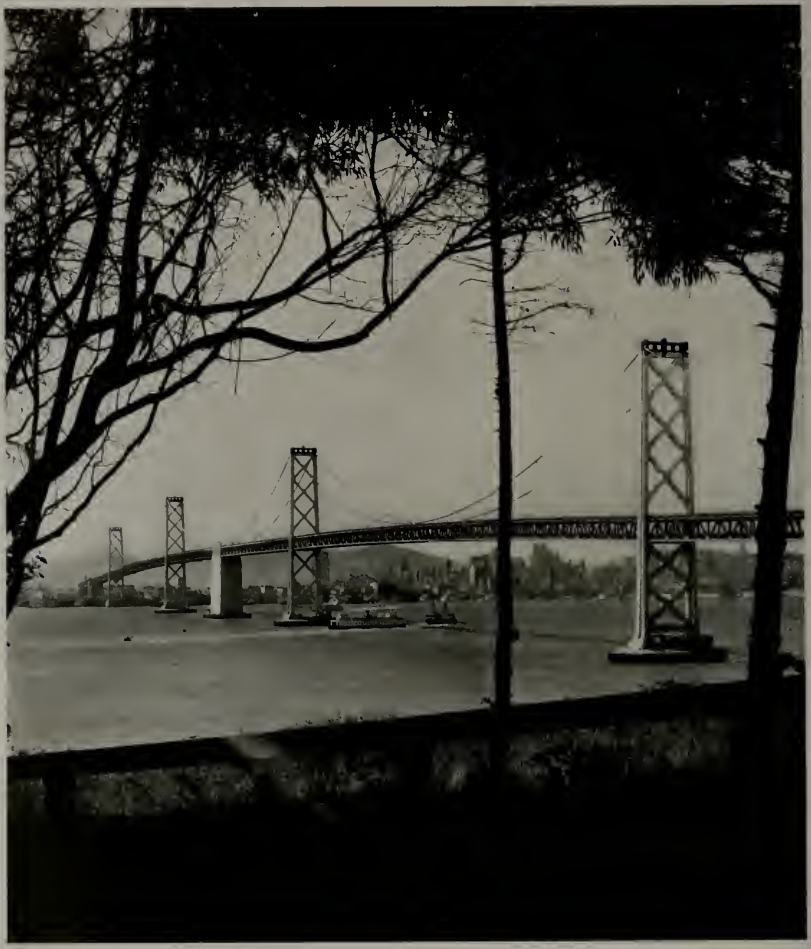


LATE VIEW OF SAN FRANCISCO-OAKLAND BAY BRIDGE

C. H. PURCELL, CHIEF ENGINEER

THE OREGON COMPETITION - IN RETROSPECT

MINUTES OF JURY SHOW UNUSUAL DELIBERATIONS

By Roi L. Morin, A. I. A.

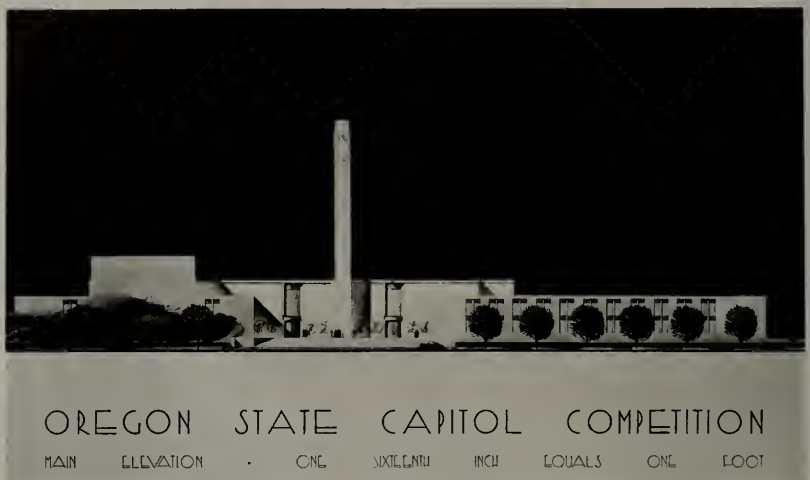
THERE have been numerous expressions of regret, both publicly and privately, from competitors in the late Oregon State Capitol Competition, that the official report of the jury did not attempt to explain what the jury looked upon as desirable features in a plan of this character. It was felt that such an explanation would serve as a guide to competitors in future competitions. As one correspondent so aptly expressed it. . . . "It is regrettable that there was not a more constructive and tangible report of the judgment. The competitors would derive a genuine benefit from learning more explicitly of the deliberations of the jury; its classification of the primary functions of such a building; which compromises were thought to be unimportant; which specific parts of the program it considered more vital than others. . . . The realization of these truths by those men selected to write the reports of the jury would convince them that their responsibilities and duties were far greater than those of the individual competitor. . . ."

There was also a feeling expressed in many quarters that a jury whose lay members outnumber its architect members was greatly handicapped. One very prominent New York practitioner went so far as to state that he would never again enter a competition wherein the jury was so unbalanced.

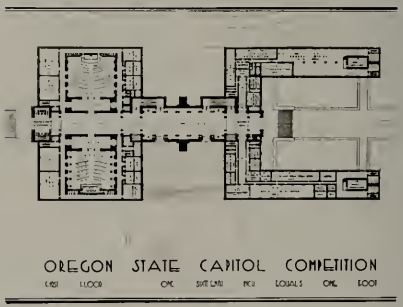
Now it has been my singular privilege to peruse the minutes of the meeting wherein the Oregon jury announced its findings and recommendations to the Commission—a most edifying experience—and I wish to allay the fears of the profession as to what took place. First let us recall that the official report, brief as it was, showed that the decision was unanimous. The minutes would indicate that it was so, not only in generalities but in detail. There is not the slightest proof that architect members of the jury were outvoted, overruled or intimidated into making the recommendations that were subscribed to by the entire jury. Several non-jury members of the Commission, wishing to be forearmed against public criticism, repeatedly asked the jurymen to explain to them in detail why design #89 was selected as first choice. It took considerable time and discussion to elicit this information; in fact such an explanation was not forthcoming until after the envelopes were opened, whereupon it was felt that the glamour of the name of the winning firm sufficiently substantiated the selection! After all the envelopes revealing the winners were opened and more discussion ensued, the jurymen, upon being pressed further for an explanation, reported as follows (quoting from the minutes):

Mr. X (an architect): "Mr. Chairman, I am not quite clear as to what sort of an explanation you desire—whether it is an intimate discussion of the winning design, bringing out its strong points but also its points that might be strengthened. Now our understanding was that we were going to prepare, Mr. Y (the other architect) and I, tomorrow, our opinion as to the strength and weakness of the winning design—our suggestions—as a result of the deliberations of the jury, as to what we felt about it pro and con, leaving it up to the Commission and the architect to use

Design Submitted by Harlan Thomas, Lance Gowan, Henry Olschensky and Arthur Herrman, Seattle, Wash.



these suggestions or not as seem later on best. Now it is rather hard to discuss the winning design, or designs, as to their points of weakness or strength, without the designs before us, except in a very general way. If that is what you would like—a rather general summarization of the strong points of it, Mr. Y and I would be glad to do that. I am not quite clear as to what sort of a discussion you desire. Our chairman should report the routine business of the jury — how we proceeded about it—how we eliminated and how we gradually boiled it down to the design that was selected, and after that if you wish a discussion of the building from the technical point of architecture, alright. Whether you wish it here or over at the Chamber of Commerce, where the drawings are on display, I am not quite clear. It seems to me the chairman could give you a general statement of the procedure."



Error in Winning Plan

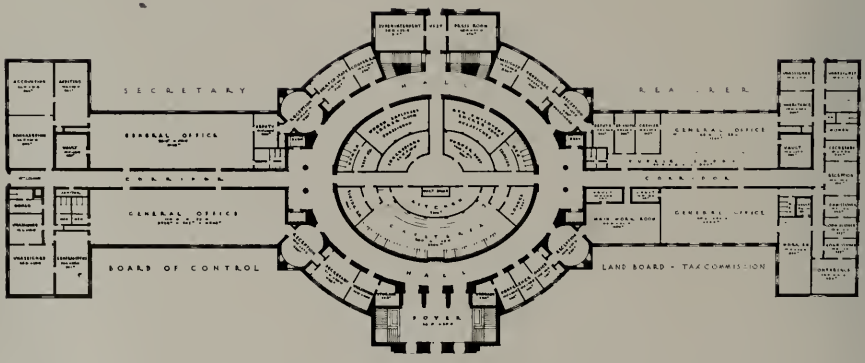
After that clarifying discourse Mr. X sat down and was not called upon for further

explanation for the remainder of the evening. Mr. Chairman (quoting the Minutes again): "There were numerous designs which naturally eliminated themselves for various reasons, some of which had been given in our report. Some did not have the adequate space requirements; others did not have the necessary pertinent matter. But when the jury came to look upon the one hundred and ten designs (left) there were others that naturally eliminated themselves that were patently the work of poor craftsmen and the design was manifestly poor on the face of it, and treatment of architectural features was also poor. They were culled out. But after the first culling there was a careful examination made of those which had been passed for further signs of excellence. That completed the first day. The second day we went back over the whole work again to see whether we had in our first pruning eliminated any plan that had merit. If we had they would have consideration. Some were brought back—a very few. In the latter part of the morning we took one straw vote which we agreed not to count. This afternoon we went into the serious business of voting. Lots of things appealed to me as a lay member as a good plan. And the others, in gradations down to the first award, were these: First of all the principal features in a capitol building are adequate arrangement. Here in this design we have the House of Representatives and the Senate and the Governor's office. The building looks like a Capitol. These facilities were easily reached by the people. In many plans they have been—the two houses had been so closely brought together they would break down from simple traffic congestion. And we like a lobby. There was a place for people to talk to legislators off the floor. Then when you went into the building there seemed to be a spiritual uplift to people as they came into the public space. It had stimulation. It had that something that makes a person feel that they are in a building as against an office corridor. Many plans, when you stepped into the building, provided nothing more than corridors of an office building. There was nothing to make a schoolboy or a taxpayer who has to pay for the building feel, "Here is something I can be proud of." This plan also makes the service facilities of the Capitol practical—all on the ground floor where they can be reached by people without having to lift them many floors." (The winning plan picked up an error in grades which appeared on the plot plan in the program, showing the grade in the rear 7 feet below the grade in front, although the site is actually level and was so designated elsewhere in the program. This made it possible to fenestrate the working portion of the basement above grade in the rear. **The winning design is the only one so far revealed in which this was done but it escaped the notice of the Jury!** Upon starting actual working drawings this error was discovered and the main floor level raised accordingly, bringing it up off the ground like most of the other entries.) "There were many designs which had great lofty, soaring towers — many of them nine stories high, and the service parts of the building were in the high elevations. Naturally the public parts of the building were in the lower floors which were used only every two years, or every one if there is a special session.

"Then we studied the drawings under the guidance of our architect members, it became very clear to us that this drawing was the work of a real craftsman, in distinction to some of the other drawings which were grouped in the six awards. There was something that makes you feel that the man behind the pencil was a master, and the award has proven it." (The elevation of the winning design was rendered by Louis C. Rosenberg, the former Portland, Oregon, architectural renderer, who has since become a famous etcher, and who was employed to make the rendering.) "When the envelope was opened that feeling was justified because—well I am only a layman, but I have had a good deal to do with the building business and with architects and I do know from long reputation and from reading the magazines it is a real asset in every sense of the word—they are

OREGON STATE CAPITOL COMPETITION

Design Submitted by Sutton, Whitney and Aandahl, Herman Brookman and Jameison Parker, Portland, Ore.



FIRST FLOOR PLAN

one of the fifteen best in the country. That expresses, as far as I am concerned, how, through a process of elimination and studying the drawings and seeing how facilities have to function in order to be easily available, financially practical, that this design was what we felt was the winning design."

Jury Unanimous for Winner

We can see from this that the lay chairman of the jury, in contradiction to the architect member who was called upon first, had ideas and was able to express them lucidly and with conviction, even if they were not always correct.

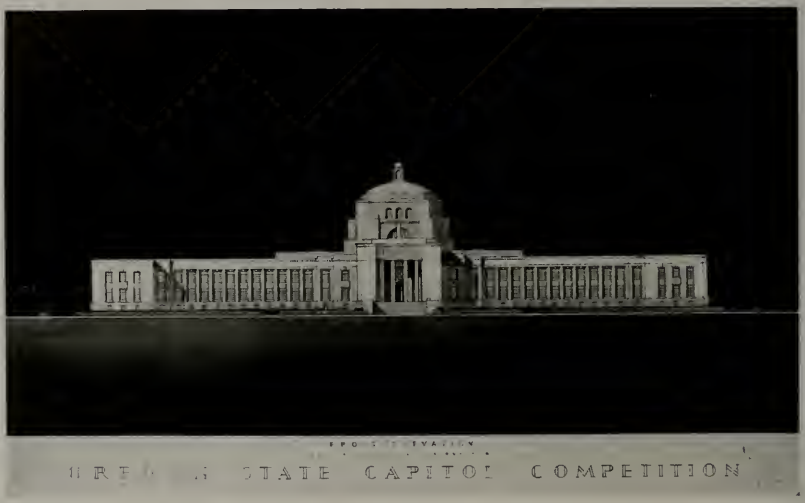
On the following morning, May 27th, Mr. X, the architect member of the jury who had been called upon to explain why design #89 was selected, amplified his remarks as follows: Mr. X (quoting from the minutes): "The jury —I think I can speak for the jury as the chairman is not here—are very happy over the selection; very happy that we could so quickly come to a unanimous selection, feeling that of the one hundred and twenty-three—whatever the number of exhibits were submitted —that it is the outstanding presentation. I think you probably, most of you I hope, will feel that way also after looking at the rest of the drawings. In going through so many drawings, naturally there was a danger of overlooking the winner, and after we had gone through them the first day and set aside those that were definitely out of it, we went through them again yesterday morning to be sure we hadn't overlooked the winner, and we selected some for further discussion—some of those we had discarded the first day—but eventually they also went out." (Remember there were approximately 700 drawings in all). "Now naturally in a competition of this sort you will find all kinds of thoughts and ideas as to architecture and size and kind of building. You will find some in which the architect evidently felt it was going to be built in Portland and not in Salem; others who evidently felt Salem was a prosaic little town and sent drawings of prosaic little buildings and then put statuary or an obelisk or something to give it a little punch. Always there is a great deal of modernistic tendency. You know we have had a World's Fair in Chicago that was very modern, and that was echoed in a number of drawings here. We have kept some of the modern thought subjects on the back wall.

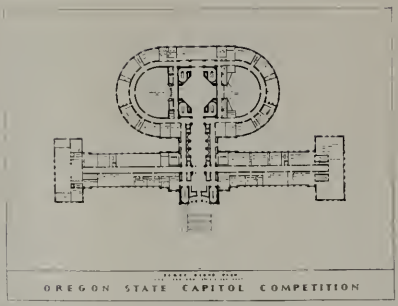
But after all, in the winner we feel you have something that has a modern flavor, based upon good, sound traditional Greek thought —something that has thickness and yet is not too massive. You have a building that is very compact, which is not only good in its—in the distances between the various parts, but it stands for economy. Now the building you have there sets ideally on the lot. It is not crowded on either Court Street or the street toward the University—plenty of room around it to have a proper setting in the park." (The winner's plot plan shows the building definitely cutting the park in halves as the entire rear of the building is developed into an open-air parking lot for automobiles—upon which all the main working offices face.)

"He has had room to widen Court Street in front of the building, giving it a little more dignity. I don't believe there is any plan that was submitted that was any more compact and yet function, because it is almost impossible to make such a plan. Now in comparison, this plan to the right is a very good plan, functions easily but has a great deal of fine public space which is in excess of the needs of the building. That much public space is sufficient for a building half again, or twice as large, and that simply spells putting money initially, and in upkeep, in corridor space that you don't really need. The plan hasn't the beautiful plan of public space the former has. You can apply that around the room to many of the others. Now in a quick analysis of the winner with this plan, which is a well spread out plan, the exterior footage, or lineal footage wall space, is 60% greater than the other. Well now, you see what that means in the treatment of the exterior of the building. Your money will go much further in the former to obtain the finished result." (Observe

OREGON STATE CAPITOL COMPETITION

Design Submitted by Hollis Johnston and Robert W. Turner, Associate Architects, Portland, Ore.





here that such a critical analysis as this was neither expressed nor implied by the program. The actual total cubage of all entries to be judged was limited by the cost, and all entries had to come under this limit or be rejected before judgment. Of the 123 entries submitted, one hundred and ten at least observed the cubage limits.)

"Now in the approach to this thing, I think that all of your jury have felt that the thing to look at first is a good plan and a good section. In other words, a building that will build

up well as denoted by the section from a good, sound architectural, well-functioning plan, and we believe we have those two things. No elevation, no matter how pretty it may be, is of any value if you haven't got an architecturally workable, livable plan. Fortunately in the former we believe we have all three—the plan, the section and the elevation. Bear in mind that the competition is not for the selection of the final building. It is more for the selection of an architect for the building; for the choice of a man with a fine background, who, with further study, will know how to make it look and work even finer than at present presented. And fortunately the winner is just such a man, who has had such a background and knowledge and, although there are a few suggestions—we didn't want to make any here—in the elevations and in the plan section. Those will come through the architect and his experience, in working through your Commission, and you will unquestionably arrive at a result which far exceeds your expectations, a dignified building in no sense a copy of anything that has gone before. We are only too happy that the Commission felt with us and unanimously have approved the first choice, and I know Mr. Y (the other architect) and I can do nothing more than congratulate you men of Oregon on the fortunate choice that it has been possible to make. Thank you."

Regret Lack of Complete Report

Remember that all of these explanations came not before, but after the Commission had voted upon and accepted all the winners! These are the points the jury looked for and found in the winning 'parti'. Do you still regret the lack of a complete official report? If you wish to predicate your design in the next competition on this evidence make certain beforehand, that the jury will be of the same calibre as the Oregon jury, for if you have the misfortune of having one architect on the jury who considers the circulation of prime importance and who plans like Ivar Tengbom, Saarinen, Cret, Lloyd Morgan, or the host of men with training in the Laloux school rather than that of Frankenstein, be you modernist, pragmatist, traditionist or what-not, your 'parti' will be promptly laid on the garbage heap!

Mr. Thomas, in his unofficial report printed in the July "Pencil Points", writes in scolding competitors for being "tricky" (a method certainly provoked by the "tightness" of the program): "Others became—well, let us call it 'facetious'. In order to build up a central unit of height and avoid cubage, they cleverly—to their minds—erected four parapet walls from 10 to 90 feet above the roof and thereby cubed only the actual volume of the parapet walls. How do you think such trickery affected the jury?" Such "trickery", Mr. Thomas, affects different juries differently. It was just such trickery, as you call it, that won the "Chicago Tribune" competition for the Howells & Hood entry, for it was by extending the parapet walls up several stories as a screen, then buttressing them back into the central tower for support, that this entry was able to avoid the letter, if not the spirit, of the Chicago Building Code, and thereby make the building look much larger than the others. When a jury is seeking a magnificent scheme such "trickery" is admired and called daring. The Harrison & Foulihoux entry, published in the July "Architectural Forum", is probably the one Mr. Thomas was referring to in his admonition about parapet walls. Mr. Foulihoux, as everyone knows, was associated with Raymond Hood on the actual building of the Tribune Tower, and was consequently familiar with Hood's "trickery". Moreover a question, addressed to the Technical Advisor of the Oregon Competition, read and was answered as follows: (See Bulletin #2, dated April 8th, Question #26).

Question: "If a parapet wall extends continuously above the top of the main roof line, may the net cubic contents of the parapet wall only be added to the main mass?"

Answer: "It is correct to include in the building cubage the actual volume only of the masonry contained in the parapet walls."

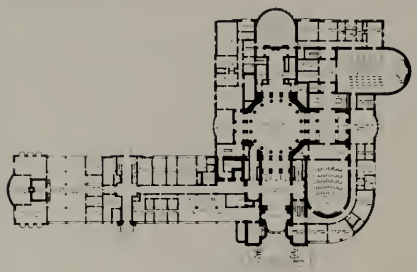
Can we doubt but what this query came

OREGON STATE CAPITOL COMPETITION

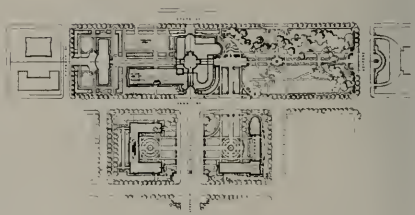
Design Submitted by Lawrence, Holford and Allyn, Portland, Oregon

NORTH ELEVATION

OREGON STATE CAPITOL COMPETITION



OREGON STATE CAPITOL COMPETITION



OREGON STATE CAPITOL COMPETITION

from the Harrison & Foulihoux office, and can we believe that the jury actually read and digested the bulletins, or was the advisor at fault?

Let us suggest some changes in the Institute Code to better future competitions, but let us not regret that the Oregon Jury had a majority of lay members, or that it did not issue a detailed report. The lay members of the Oregon jury were the equal of lay members anywhere, and they did not outvote the architect members. And a report would only have misled us in future competitions; we were fortunate in being spared that.

* * *

Entry by Harlan Thomas, Lance Gowan, Henry Olschewsky & Arthur Herrman, Associated: Seattle, Wn.

Commenting on the large number of entries of the Modern school, one of the lay jurymen afterward remarked, "It looked like we were in Russia". It is difficult for the writer, whose mental pictures of Russia come from the novels of Dostoievski, Turgenieff and Tolstoi, the Russian ballet with the drawings of Leon Bakst, and the writings of modern newspapermen like Walter Duranty, to comprehend why Russia, besides being blamed for the present social and political unrest also gets the credit for good, modern planning. The best modernism in European architecture comes from England, France, Germany, Italy and almost any other country but Russia. This Seattle entry, frankly a design of the modern school, has a splendid plan and fine circulation. You can go right through the building in both axial directions. The Legislative branch is segregated as it should be. This design ranks with the Foulihoux and Harrison, and the DeYoung & Moskowitz entries as three of the best modern plans that were presented. The elevation is beautiful and inspiring.

Entry by Sutton, Whitney & Aandahl, Herman Brookman & Jameison Parker, Associated: Portland, Oregon.

One of the most interesting and most original plans presented. The circulation is clean and excellent, and the facilities for lobbying (on the floor above in the center of the building) could hardly be improved upon. The office spaces are shallow and well-lighted. The elevation has great dignity and repose, and a singular delicate beauty.

Entry by Hollis Johnston & Robert W. Turner, Associated: Portland, Oregon.

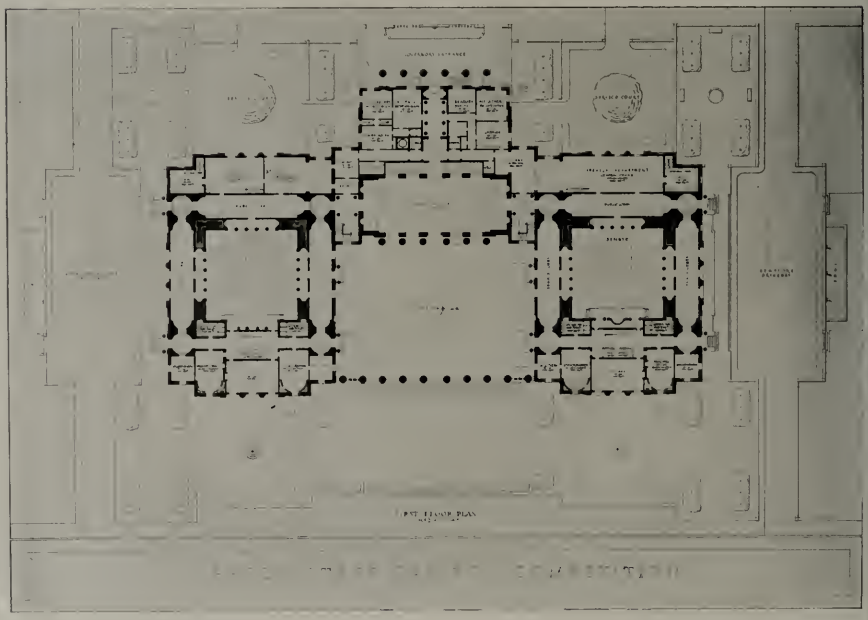
A clean, fine thoughtful plan and perhaps the best possible arrangement of the Legislative facilities, which are segregated from the full-time offices. The layout of the Chambers was probably inspired by Holabird & Root's excellent North Dakota legislature, but in my opinion this scheme is even better as the public lobbies do not open into the Chambers proper (the public is not allowed in the Chambers while in session). The office layout is as near perfect as the limited program would allow. The plan suffers somewhat from being cramped by the narrow width of the present site, but everyone in Oregon knows that the Capitol grounds will be added to shortly. While searching for a "parti" Mr. Johnston took the trouble to go to Salem and consult all department heads to ascertain if all the stipulations of the program, placing most departments near or adjoining one another, were either necessary or desirable. The incumbent governor, among others, when asked if his suite should adjoin the legislative chambers is reported to have replied that he preferred to be as far away from the legislature as possible!

Entry by Lawrence, Holford & Allyn: Portland, Oregon.

While searching for a "parti" my associates and myself tried to find every possible layout for this problem, but here is one we did not discover. A most original plan which frankly expresses the unbalanced axial division of the site, and whose areas are well disposed. The elevation is modern and gay but well composed. It might strike some people as odd in appearance for a Capitol structure but elevations are a matter of taste, and any man who can make a plan as good

OREGON STATE CAPITOL COMPETITION

Design Submitted by Thomas Harlan Ellett and T. A. Fransioli, Jr., New York



as this one can develop a good elevation from it later.

Entry by Thomas Harlan Ellett & T. A. Fransioli, Jr., Associated: New York City.

It is always interesting to see what Capt. "Tom" Ellett will do. A former McKim, Mead & White and Benjamin Wistar Morris designer, an associate of Eric Gugler, and to my knowledge the only man twice to receive the Gold Medal of the N. Y. Architectural League, of late he has been greatly responsible for many of the fine small postoffices issuing from the Treasury Dept.'s "sweatshop" in Washington, D.C. I never cease to admire the freshness and originality of the detail in his beautiful Cosmopolitan Club in New York, and I can see how this simple traditional design would have been similarly developed under his meticulous care.

Entry by Roi L. Morin, Portland, Ore. Collaborator on design: Lloyd Morgan, New York. Work on "parti": Harry Gnerre, (the 1935 LeBrun Fellow):

For my own entry we frankly looked through the books. As I had read the History of Oregon long before the program came out it wasn't necessary to go through that again. This design was not inspired by reading Oregon history (like the winner) but by carefully examining the plan of every possible State Capitol we could find and picking out the good and bad features of each. Very early in the game we were impressed with the logic of segregating the legislative facilities, as in the North Dakota capitol. The legislature meets only from 40 to 60 days every two years, and all its rooms are useless the remainder of the time. Why wasn't it reasonable to place them in a separate building to cut down heat and janitor costs? This was premise #1. Secondly, the structure most needed in Salem today—even more than the Capitol—is a State Library. The present library is in the dark basement of the Supreme Court building where the librarians valiantly carry on as best they may. Moreover the present Librarian has expressed the desire that the new Library be incorporated right in the main Capitol building, as it is in some other States. Then the square-footage allocated in the program to the future library almost exactly balanced the Main Floor requirements of the Legislature! Then we searched diligently through the program and the bulletins to find a single sentence that stated we could not incorporate the Library with the main building—and we found none. Premise #2. Third: It seemed most desirable to place the Governor, as the most important individual in the Capitol, on the axis, and to cluster the most important of the other full-time offices directly around the Main Rotunda (Sec. of State, Sec. of Treasury, Budget Dept. and Board of Control). The two minor departments—the Land Board and the Tax Commission could not be wedged into this space. Premise #3.

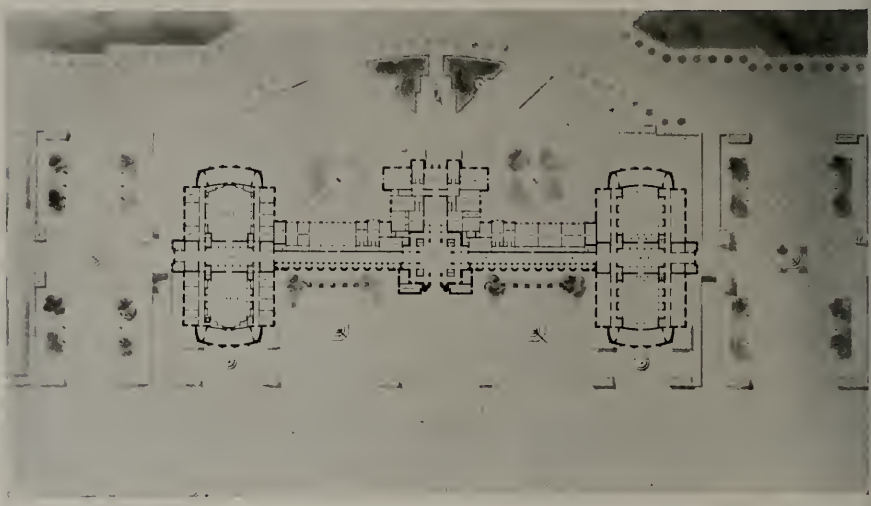
Then why not take a "flyer" and design a building which would be unbalanced until the money was appropriated for the State Library—which to all appearances will be at the January 1937 session? True we would be forcing the Legislature's hand to appropriate the funds for the other wing of the Capitol but this would be cheaper than having to buy another block of land for the Library (at a probable cost of $250,000 alone) which they will have to do now.

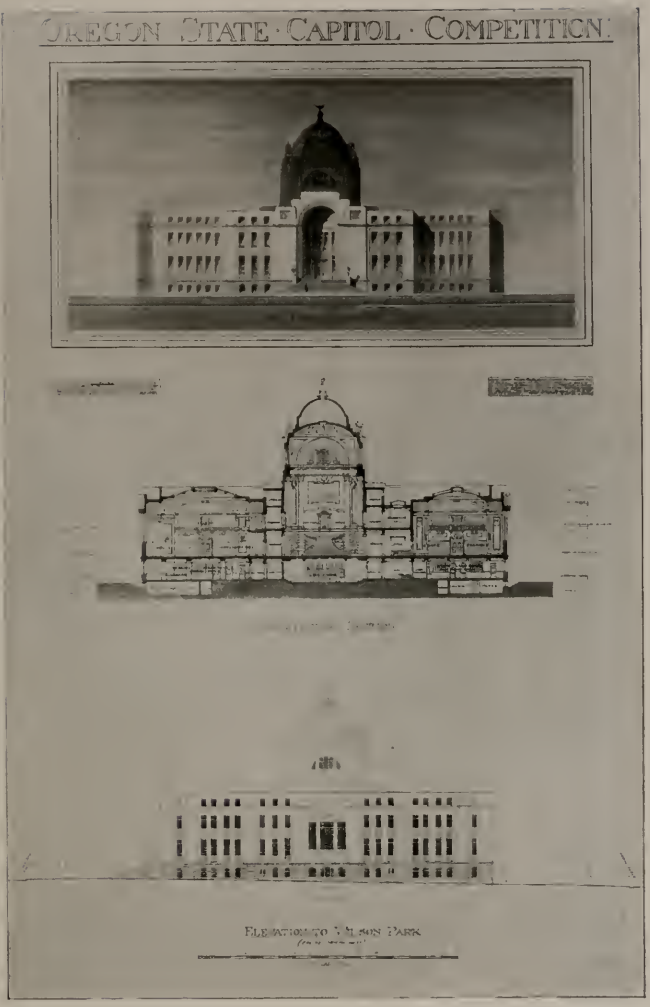
Of course we were greatly impressed by Goodhue's magnificent Nebraska Capitol, and we studied its plans under a magnifying glass. The great Historical Gallery in this scheme running through the building east and west, and lighted by a great arcade in front, came from trying to keep the office employees from crossing the public corridor while performing interoffice business. The arcade was treated like Cret's facade on the Shakespearean Library in Washington. The poche' is bal-

[Please turn to Page 43]

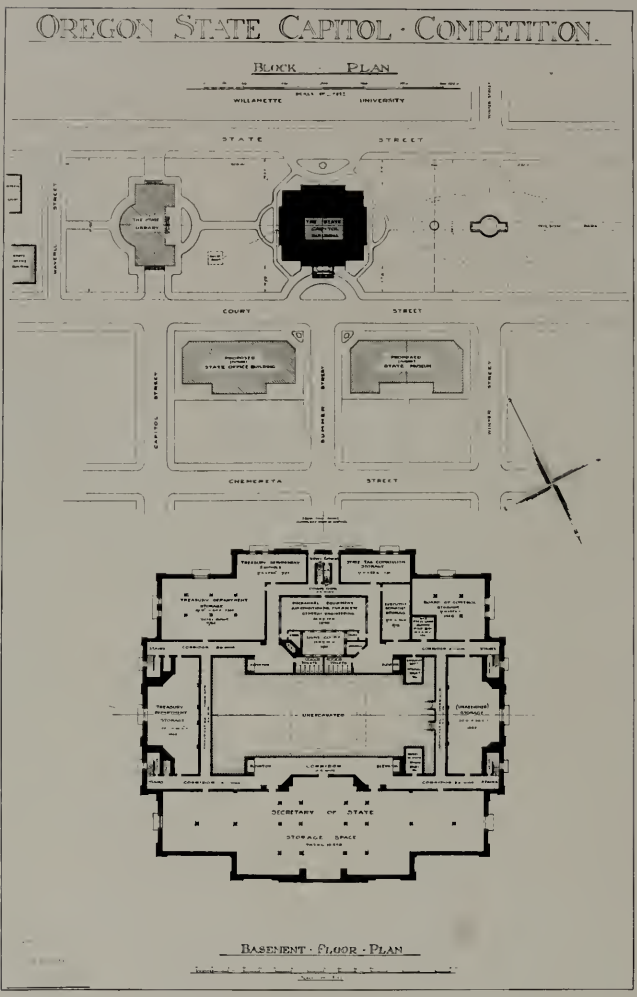
OREGON STATE CAPITOL COMPETITION

Design Submitted by Roi L. Morin, Portland, with Lloyd Morgan Collaborator on Design





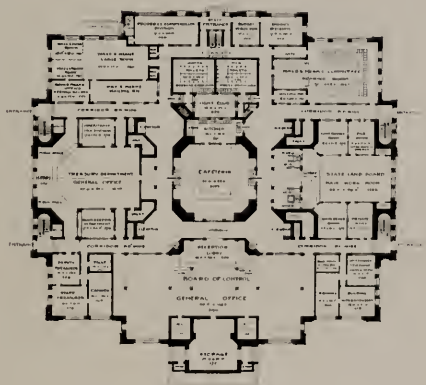
DESIGN SUBMITTED BY W. C. F. GILLAM, BURLINGAME, CALIFORNIA



DESIGN SUBMITTED BY W. C. F. GILLAM, BURLINGAME, CALIFORNIA

OREGON · STATE · CAPITOL · COMPETITION.

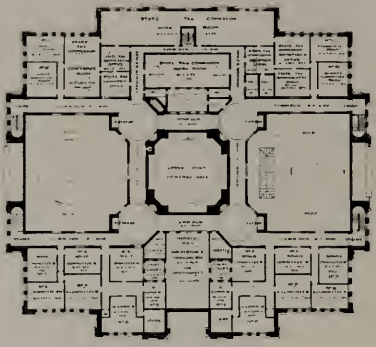
THE FIRST FLOOR PLAN.



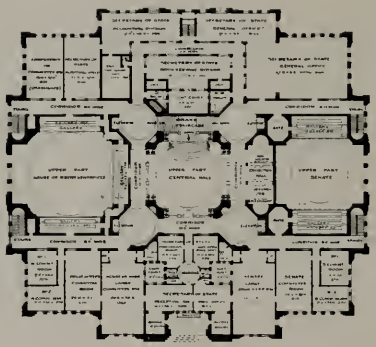
THE GROUND FLOOR PLAN.

DESIGN SUBMITTED BY W. C. F. GILLAM, BURLINGAME, CALIFORNIA

OREGON · STATE · CAPITOL · COMPETITION.



THE UPPER OR THIRD FLOOR PLAN.



THE MEZZANINE OR SECOND FLOOR PLAN.

DESIGN SUBMITTED BY W. C. F. GILLAM, BURLINGAME, CALIFORNIA

UPKEEP AND MAINTENANCE OF BUILDINGS

NEW FIELD FOR THE ARCHITECT IS SUGGESTED

By H. E. Root

MORE than any other single factor, the architect is responsible for the fact that the value of the home is far greater than the sum of the values of its parts. It is this value over and above the value of the component parts of the structure which represents the craftsmanship of the architect.

Not only does the skill of the architect build into a home greater present value, it also gives that home a more permanent value. All of us who are concerned in any way with home construction, whether it be in the role of the architect, builder, banker, or insuring agent, are vitally interested in more permanent values.

Under present financing conditions bankers are more than ever interested in the preservation of building values. Although we have long recognized the desirability of designing and building more permanent value into homes, this need has been made even more imperative by the lengthening of loan maturities. With home loans running 10, 15 and even 20 years, it is necessary that home values be maintained.

Another factor which has brought home to bankers the desirability of improving the quality of building is the tendency on the part of many people to regard approval of a home loan by a banker as in effect a warranty that the building is a good value. In the future this tendency is going to increase rather than diminish.

In our institution we have studied this problem from all angles and have come to the conclusion that the best way to promote quality building is to take a more active interest in the building process. Carrying this thought a step farther we come straight to the architect, the logical starting point. Before a home can be built it must be conceived in the brain of an architect. It is for this reason that Bank of America is happy to endorse architectural service as an important part of home building and our appraisers and lending officers for some time have been accustomed to include the architectural fee as a part of the building value in determining the amount which may be loaned on a given property.

In employing the services of an architect the home builder assures himself of a completely designed and distinctive residence which will utilize to the best advantage physical limitations of the building space. Furthermore, since the architect specifies the materials to be used, and supervises the construction, the cost of architectural service is built right into the home and reflected in added value.

As a factor in more permanent building values, proper design and quality of materials and construction cannot be overemphasized. A poorly designed house has a restricted utility value and this limits its re-sale appeal. Good architectural service designs ready saleability into a house, for the archi-

From an address delivered at the Del Monte Convention, State Association of California Architects.

tect, by training and background, thinks not only in terms of exterior conformation, but in terms of utility and adaptability, as well. All of this contributes to more permanent building values.

The day is happily passing when homes can be sold on the strength of gadgets and purely visual architecture. The demand for more permanent value makes it necessary that staying qualities be built into the house, in design, materials, and quality of construction. We believe the services of a competent architect are the best warranty the prospective homeowner can get on these points.

Considering the home mortgage purely as an investment, the greater permanence of value assured by competent architectural service is of the utmost importance. A borrower who has a home which is wearing well and which has a low upkeep cost, is far less disposed to "give up the ship" easily in time of financial stress. Knowing that his home is a good value, and worth far more than he still owes, he will make more strenuous efforts to keep it. In addition, the bank, knowing that its loan is amply secured, can afford to be, and is, far more lenient with the delinquent debtor. This is because a house which is properly designed and soundly constructed of quality materials has the ready marketability and high re-sale value necessary to protect the bank's investment.

Another point in favor of architectural service, as seen from the viewpoint of the financing agency, is the relatively low upkeep cost of the quality-built home. In lending on homes, banks must take into consideration the borrower's other present responsibilties and his probable future responsibilities, in order to insure a proper relationship between the amortization program and the borrower's other financial needs. An important future responsibility of the prospective borrower is the necessity of keeping his home in good repair. Experience has shown that quality-built homes depreciate slowly and do not constitute a steady drain on the pocketbook of the owner.

Entirely aside from the improved building standards which architectural services insure, there is still another important contribution which such services make to more permanent building values. I refer to the maintenance of value through proper design. The importance of this factor cannot well be over-estimated. There is a vast difference between a five-room building and a five-room home. Architectural service makes that difference.

Adaptability to future needs and future developments, utility, proper distribution of rooms, harmony of exteriors and interiors, proper utilization of the physical limitations of the building space; all of these are within the special province of the architect, and all have a direct bearing on the maintenance of future value.

Thus it is clear that from the viewpoint of the financing agency the role of the architect in promoting more permanent building values is an essential one, and one which in the future will play an even more important part than in the past.

GARDEN VIEW
BRADFORD AVE
SCHOOL, PLACENTIA,
CALIFORNIA
T. C. KISTNER,
ARCHITECT

CONCRETE SCHOOL OF PLEASING DESIGN

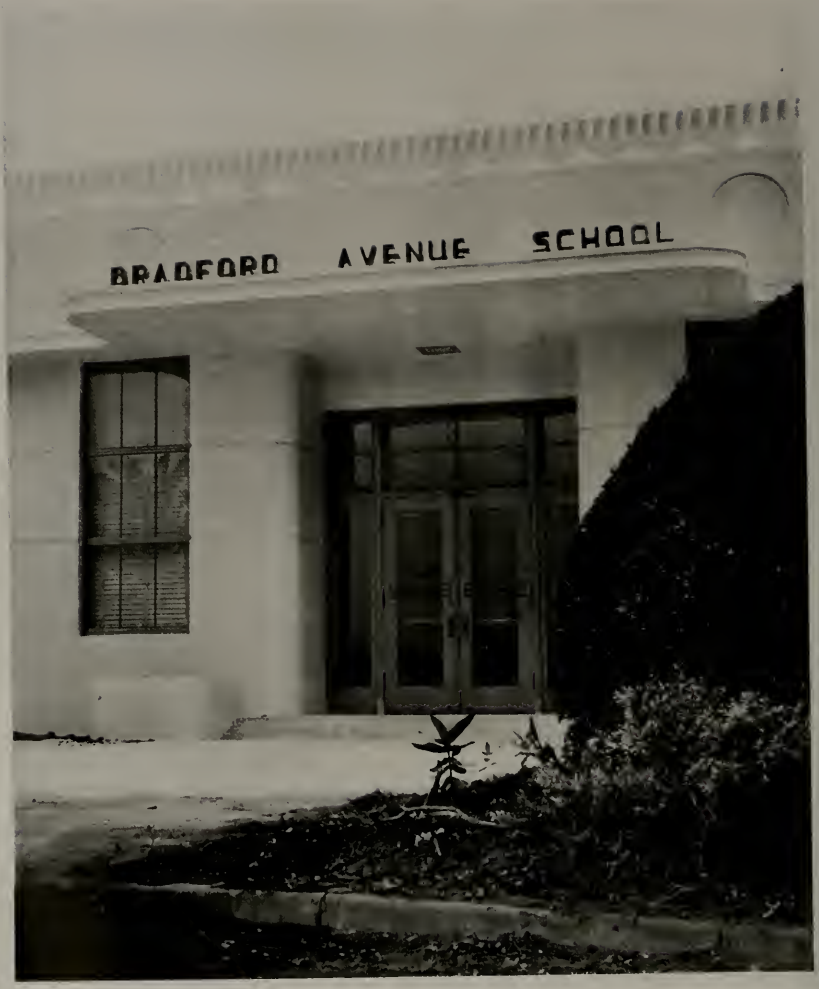
FIRE AND 'QUAKE PROOF BUILDING AT PLACENTIA

By Homer M. Hadley

SMALL one-story grammar schools, if not like the sands of the seashore for multitude, are nonetheless exceedingly numerous throughout the great American republic and its sister nation to the north, Canada. So common, in fact, are such schools that any further mention of them would seem to be superfluous. Yet when a 9-unit building, having eight class rooms and the usual accessory rooms and corridors, built to a high if not the highest standard of fire resistance, designed against earthquake forces of I 10 g, is placed under contract for $48,280, there appears to be excellent reason for further discussion of one-story schools, or at least of this particular school.

The Bradford Avenue School of the Placentia Unified School District at Placentia, California, was built to provide accommodations for 320 pupils and their teachers. Being the fundamental thing that a school is and having a use and service to perform that is definite both now and in the future, the school directors naturally desired the most substantial building that could be had for the somewhat limited funds available. Of necessity it must be a simple sort of building, but insofar as it could be fireproof and termite proof and of low maintenance and operating cost while at the same time complying with the State's requirements for safety against earthquakes, the more pleased the school directors were.

There resulted the building which is shown in the accompanying views and figures. It is



DETAIL OF ENTRANCE, BRADFORD AVE. SCHOOL, PLACENTIA, CALIFORNIA

T. C. KISTNER, ARCHITECT

VIEW FROM LAWN, BRADFORD AVE SCHOOL, PLACENTIA, CALIFORNIA
T. C. Kistner, Architect

a simple rectangular one-story structure, 61'-2" x 182'-8" in plan, with 12'-0" finished ceiling height. A central corridor extends from one end of the building to the other, connecting at midpoint with the short transverse corridor which comes from the main entrance.

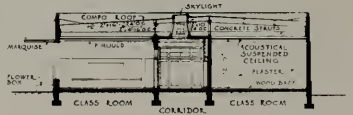
The exterior walls are concrete and are given a simple architectural treatment. Both walls of the long central corridor are of concrete, as are the intersecting walls adjacent to the main entrance. Also of concrete are the interior walls at the ends which separate the toilets from the rest of the building. The long central corridor walls are joined and connected at their tops by a ceiling slab of concrete.

This corridor ceiling slab acts as the main horizontal stiffening diaphragm of the upper part of the building. About 18 ft. on centers for the full length of the building, continuous concrete struts or ties, 12" x 12" in section, extend transversely from one exterior wall to the other, connecting the otherwise unsupported tops of these walls to the corridor ceiling slab. This slab in turn transmits its horizontal loads to the cross walls near the main entrance and to the walls at the ends of the building. There is thus provided an extremely simple, definite and economical system of earthquake bracing which rigidly connects and holds together the entire upper part of the building.

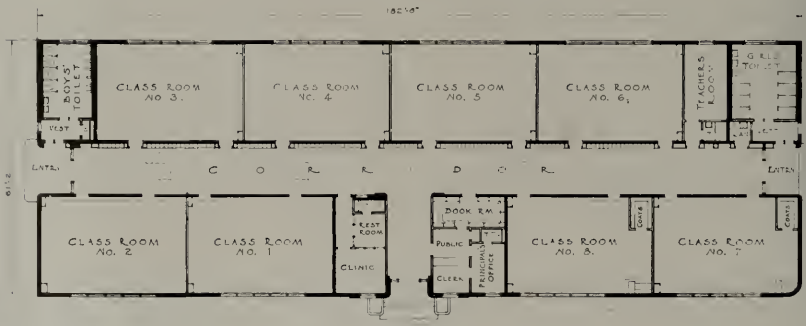
The main floor is a 5 inch concrete slab reinforced with $\frac{3}{8}$" round bars 12" o.c. both ways and laid directly upon a prepared fill. The prepared fill consists of an 8 inch layer of gravel ranging from $\frac{1}{4}$ in. to $\frac{3}{4}$ in. in size, placed on top of a 5 inch layer of sand over the leveled-off natural ground, which is a clay or gumbo and very sticky when wet. To prevent the fresh concrete working down into the interstices in the gravel, a layer of 15 lb. building paper was spread over the gravel course to make the desired separation be-

Bradford Ave School, Placentia, showing concrete struts which brace exterior walls against the corridor ceiling slab, stud bearing partitions, etc.

REAR VIEW, BRADFORD AVE SCHOOL, PLACENTIA, CALIFORNIA
T. C. Kistner, Architect



· CROSS SECTION ·



· FLOOR PLAN ·

SCALE

tween them. When as was to be expected the paper was punctured here and there during the concreting the harm was limited and was entirely local.

The remaining construction of the building was of wood. The roof, elevated several feet above ceiling level, is framed with 2 x 16 rafters over the class rooms and 2 x 6s over the corridor slab. These rafters bear on the exterior walls and on low stud bearing partitions built up above the concrete walls of the central corridor. The ridge of the roof comes above the rear wall of the corridor. Sheathing is placed diagonally and everything is nailed, bridged, and connected according to State requirements. The roofing is of ordinary composition type with gravel surfacing. It drains to low points at the four corners of the building, whence copper down-spouts carry the wash down to sewers.

The class room ceilings are of metal lath and plaster suspended below the roof rafters a distance which varies with the slope of the roof but averages 3'-6". This large space above the incombustible ceiling affords most excellent protection to the rafters against any fire that might originate in the class rooms below, whose partitions, cabinets, desks and other furnishings are largely of wood.

That such a simple plan and arrangement would naturally lead to low costs is evident. Everything works advantageously. The concrete exterior walls serve both structurally and architecturally. They are laid out with simple plane surfaces and carry only a small amount of molded ornament. At the top of the parapet and over the main entrance is incised waste mold decoration of simple and inexpensive pattern. The marquis at the main entrance, some rounded corners at this entrance and the other entrances and one rounded building corner mark the only departures from easy form work. The exterior walls are 12 in. thick up to window sill elevation, there reducing to 10 in. thickness and again reducing in two closely spaced offsets at the window-heads to the 8 in. thickness which carries up to the top of the parapet. Two horizontal grooves, 2¼" wide and ¾" deep, in the 10 in. wall section extend the main lines of the window sash around the building on all except the north side where an extension to the building may be made at some time in the future.

All concrete work on the building was carefully controlled. The mix used employed 5¼ sacks cement per cubic yard of concrete and 7½ gallons of water per sack of cement, inclusive of water in the aggregate. A small set of platform scales was installed and every wheelbarrow of sand and gravel before being dumped into the mixer was brought to a definite weight by either increasing or reducing its contents with material kept in small bins closely adjoining the scales.

The placing of the concrete in the wall forms was also very carefully done. In the exterior walls the 2 in. offset lines at window sill and window head were ideally suited for

CENTRAL CORRIDOR, BRADFORD AVE SCHOOL, PLACENTIA
T. C. Kistner, Architect

construction joints and were so used. The interior walls were poured in two lifts, of approximately 6 ft. each. These walls are only 8 in. thick and are reinforced on both faces with horizontal and vertical layers of reinforcement. Concrete dropped into the top of such a wall and permitted to fall freely for a considerable distance could easily become badly segregated. The reinforcement tends to sieve out and hold back the descent of the coarse aggregate and it reaches the bottom somewhat later than the mortar does. Result: separation of the concrete materials, gravel pockets, patching and general dissatisfaction and expense. These difficulties were here avoided by holding the pours to comparatively short lifts although by dropping the concrete through light sheet metal pipe of rectangular section about 4 in. x 12 in. hung in the middle of the wall beneath wide mouthed hoppers at the top of the forms, it is possible to make pours of considerable depth. On this building with lifts of about 6 ft. height very excellent placement was obtained without using the pipe.

The exterior walls of the building were given two coats of paint of a whitish gray color. All interior walls are plastered with a sand finish and are painted. Several soft colors of paint were used, the selection depending upon the lighting conditions in the rooms. The plaster was applied directly to the exterior walls and without furring, reliance being placed upon the excellent quality of concrete and upon the sealing action of the exterior paint coats to keep out harmful dampness. Along the central corridor the plaster was applied directly to the concrete wall on one side; on the opposite side where the lockers are located the plaster is applied on metal lath which is brought out 13 in. from the concrete wall to be flush with the face of the lockers. Acoustical plaster is used on all ceilings.

The 5 inch concrete floor slab was given a monolithic steel trowel finish and everywhere except in the toilets, is covered with floor tile of an asbestos fiber composition 8 in. square and $1/8$ in. thick, laid in mastic. They were used in shades of black and dark green and make a floor of very pleasing appearance which can be waxed and given a high polish if desired.

The need for heat in this school is occasional and never will be great. It is therefore equipped with individual gas radiators in the several rooms, the piping for which is distributed overhead in the open space between ceiling and roof. In this same space likewise are the water pipes and electrical conduits, from which connections are dropped down to outlets in the rooms below. Drinking fountains and firehose are at the ends of the building. The plumbing of the toilets employs cast iron pipe which is permanently embedded beneath the floors.

The class rooms are equipped with slate blackboards and cork carpet tacking strips. Two of the rooms have special "activity" space and equipment for the younger children. Metal sash of the awning type is used in all windows. These swing outward in three sections about horizontal axes at the top of the sections.

A very considerable saving in the cost of this building was effected by placing the floor slab directly upon the prepared sand and gravel base upon the ground. This can be done advantageously in many cases, even where hot water or steam heat is employed. In that event the distribution to the radiators is made from a small tunnel outside the building and adjoining the exterior walls having access pockets extending through the walls and under the floor slab at the ends of each radiator.

Six bids were submitted — in December 1935 — on the general contract, ranging from $48,280 to $53,611. Award was made to the lowest bidder. Supplemental items for 192 lockers, for copper screens, and for Venentian blinds increased the cost by $2,479 to a total of $50,759. This figure does not include architectural or engineering fees or the costs of inspecting and

THOMAS JEFFERSON HIGH SCHOOL, LOS ANGELES, CALIFORNIA
Morgan, Walls and Clements, Architects

SCIENCE BUILDING, HOLLYWOOD HIGH SCHOOL, HOLLYWOOD, CALIFORNIA
Marsh, Smith and Powell, Architects

testing. There being 11,133 sq. ft. of overall area, the cost of $50,759 is at the rate of $4.56 per sq. ft. On the cubic ft. basis, taking the vertical third dimension from the mean height of roof to half the depth of the footings below the ground, there are 207,734 cu. ft. and the cost is $0.244 per cubic ft.

T. C. Kistner was the architect, W. T. Wright the structural engineer and C. L. Wurster the contractor.

NIGHT VIEW OF ENTRANCE, BELL HIGH SCHOOL, BELL, CALIFORNIA
ROBERT F. TRAIN, ARCHITECT

SAN FRANCISCO
PUBLIC LIBRARY
PERIODICAL

URGE MORE PERMANENT BUILDING VALUES

BANKS NOW RECOGNIZE GOOD ARCHITECTURAL SERVICE

By Russell G. Smith

I DEEPLY appreciate the opportunity of representing the producing end of the Building Industry before this forum. The two former speakers have spoken on the subject of the financing of buildings by individual financial agencies and by assistance from Government agencies. These two speakers naturally dwell upon the subject prior to the actual design and erection of the building, but, as a producer, my subject must be a more practical one and I have chosen the subject of Up-keep and Maintenance of the structure after erection.

In touching upon the subject of Up-keep and Maintenance, there are several important phases of a building after erection that must be considered. The first is Obsolescence, and the second is Depreciation, and I shall endeavor to bring out the idea that proper maintenance greatly reduces the percentage of reserve generally set aside for these two items.

Obsolescence is sometimes associated with Obsolescence Insurance, and I should like to remark at the outset that this is a badly chosen title for it conveys the idea of something connected with Insurance Companies. In the sense that I am using it, it means merely a yearly fund created by a building owner; who then uses it later to combat obsolescence in his building.

Of all the various kinds of property which people possess, there are basically but two kinds: those that deteriorate and finally disappear—and those that do not.

Now there seems to be in this country a more or less confirmed idea that buildings are a deteriorating investment. As a matter of fact, a building consists of both classes of investment: one part that deteriorates and one part that does not. In a structure of any kind, correct design never deteriorates and it is assumed that where correct design is used the building is always structurally sound, and this portion of the investment is of the non-deteriorating character. The deteriorating part consists, as you know, of the superficialties, the accessories and the various services. The thing that causes any building to be thrown on the scrap heap is the lack of attention to this latter part. When the materials become obsolete or outmoded, the whole building finally decays, and even before that time it loses its earning power or value. This applies to a business structure, apartment or residence.

The Europeans have an entirely different attitude toward building investment than we have in America. Building investments there and their earning power are constantly maintained by modernizing the superficial features. The non-deteriorating parts, such as the design, are always considered permanent.

I suppose that one of the basic reasons why building of all kinds in America do not follow the same process as in Europe is due to our practice of bookkeeping. In this country we make a small bookkeeping entry in a ledger, set up under the head of Depreciation Reserve. It is merely bookkeeping and in very few cases is such an entry reflected in actual cash in hand. Now, this theory contemplates that at the end of 25 or 30 years the building will be useless and therefore the investment written off. Such a practice has always seemed to me to be basically wasteful and unsound, and I believe it is far better to use some of this fund regularly each year for the

An address before the Architects' Convention, Del Monte, Oct. 16, 1936.

renewal of what really deteriorates and save the building. Spend this part regularly as conditions develop. With such a regular and continuous program of maintenance, the outlay each year will be found to be very moderate. You can pay for this modernization or maintenance program as a yearly part of the building's operation and it will prove a scientific protection against time, wear, and tear. If this is a residence, it will keep your investment intact and make the home always a pleasure to live in and keep up property values in your neighborhood. If this is a business structure, it will maintain, and even increase the building's earning power.

Naturally for building owners to follow this advice, there must first be set up an adequate routine. This should consist of a periodical survey and examination of the building, say once a year. Then a decision should be reached as to what must be done. This settled, the money set aside for obsolescence is appropriated to pay for the improvements determined upon. Once started on this path, common sense will dictate the costs for future years. Visible things will usually get the first attention because such defects quickly prejudice both visitors and tenants against the building. When these first eye sores have been cured, the functional apparatus will have attention. These are such items as water service, electric service, and similar things. By this method the building will always hold its strong place against its newer competitors, and it will have what newer buildings have not, all the added advantages that time, reputation and location bring.

Now, to do this will undoubtedly require the services of an architect, and preferably that architect who is familiar with the building, due to his having originally designed it. I would like, therefore, to offer a suggestion, and I advance it in the hope that it will prove of some interest and value. It is this:

Why should there not be an arrangement made between the architect and the owner whereby the architect **continues** to have an official connection with the building, after the building is completed? For a small retainer, the architect would agree to examine the building once a year and formulate for the owner the changes and improvements to be made that year. After these have been agreed upon, the architect would handle the contracts and supervise the work, charging therefor a percentage based on the actual cost. In this way the architect would retain a vital interest in the building indefinitely. First, he would build it. Then, as the years went along, he would see it grow into a constantly more modern structure. He could incorporate new materials and practices. It would be **his** building from first to last.

Perhaps, such a plan has shadows that I do not see, but I offer it, very tentatively, as something that may prove of value. It will take time to get American building owners to handle their investment scientifically, but I think that the architects can, if they wish, aid in bringing about this better practice. When it comes we will have more livable and better looking cities.

I think I am safe in saying that the average architect considers his activity, if not his interest, is over as soon as the building is finished. I believe this to be both wrong in principle and short sighted in practice. However, now that modernization is in the air, I am hopeful that, with the help of the architects, a scientific means can be provided for establishing a general and continuing modernization policy.

Today, the great majority of buildings are handled by very able managers or superintendents. They are generally familiar with the ordinary problems of operation and maintenance. A few of them may even suggest minor improvements or changes. There is, however, no professional person whose business it is to see that the building is kept in a healthy, economic state — attractive and modern, inside and outside — comparable to the newer buildings in the vicinity.

In that capacity, it seems to me, the architect (and preferably the **original** architect of the building) is best suited to advise. His

role should be, perhaps, somewhat similar to the one played by the family physician. He not only brings the child into the world, but looks after the child's health through manhood, and thereafter. The architect certainly knows more about his own building than anybody else. My suggestion is, therefore, that he capitalize on it—to his own advantage, and to the advantage of the building.

My paper may have touched upon these subjects as relating more to business structures than to residences, but I do believe that the same methods should be employed in residences.

Reputable nationally operating manufacturers of quality building materials are greatly interested in the subject of maintenance, and through constant work and investigation are striving to produce better materials, which will reduce maintenance costs. They realize that a slightly higher original cost is nothing as compared with the constant maintenance of inferior, lower priced materials. Through these manufacturers the architect always has at his disposal proper advice and information on the newer products as they appear.

BUILDING INDUSTRY RELATIONSHIPS
Digest of a talk by D. H. Ryan, Secretary of the California State Council of Carpenters, at Architect's Convention.

"YOU architects have seldom taken the active interest in industrial relations in the building industry that your position in the industry and your personal interests warrant. You spend years mastering the fundamentals of your profession. You learn the science of building construction and the art of design. You clothe the strictly utilitarian skeleton with beauty, give the structure dignity and character. That is your profession. But when you come to the practice of your profession, you find that it is not enough that you be an architect in the strict sense of the word. Standing between your client, the owner, on the one hand, and the contractor and sub-contractors on the other, you must be a business man, and a hard-boiled business man, to be a successful architect.

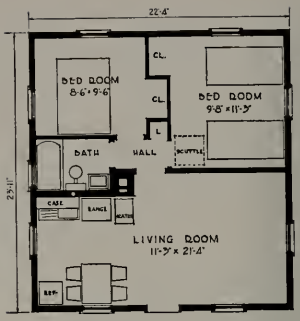
"You find that every dispute that disturbs industrial relations in the building industry affects you. Lockouts and strikes, jurisdictional disputes between crafts, disputes over hours, wages and working conditions, every controversy that halts or threatens to halt or interrupt the orderly construction of the building you have designed, affects you and the owner you represent. Contractor and carpenter, architect and artisan, all have their eggs in one industrial basket, and any one group that starts to kick that basket around will, unless stopped, scramble all the eggs, yours as well as ours. May I say in passing, speaking of jurisdictional disputes between crafts, I know of no more useless occupation than two men stopping work to fight over the question of which one of them shall do that particular job.

"We believe in collective bargaining, and to the furtherance of that end, we would like to see all architects affiliated with your Association, all contractors and sub-contractors, members of their respective Trade Association, and all mechanics and laborers members of their respective Trade Unions. It is our earnest desire to settle our differences around the conference table, but if we reach an impasse and cannot proceed further, we are committed to the principle of arbitration.

"There are some rights most men regard as fundamental, not subject to arbitration, but it has been our experience that arbitration is far better than strikes, lockouts and industrial turmoil. . . . . We believe there is within our industry itself the ability to establish and maintain sound business ethics, fair trade practices and decent working conditions.

"I speak for twenty thousand carpenters when I say to you that the carpenters in California want stability in the building industry. We want industrial peace. We offer you and all other groups in the industry our cooperation for the accomplishment of that purpose."

FEDERAL HOUSING ADMINISTRATION'S SUGGESTED PLANS for SMALL HOUSES

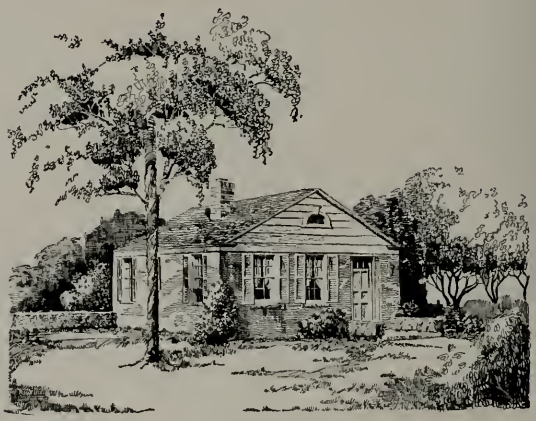


FIRST FLOOR

E. B. Morris, Jr., Del.

HOUSE A
Plan and Two
Exterior Designs

Other Plans will
be shown in
December



FIRE AND EARTHQUAKE INSURANCE

PREMIUMS LESS FOR WELL CONSTRUCTED BUILDINGS

By J. E. Shield

IN introducing the subject of fire and earthquake insurance rates to a body such as this, I feel that some explanation of the general features of these types of insurance is germane.

We are all familiar with the manner in which funds are obtained and disbursed for taking care of expenses incurred in most of the functions necessary to our existence as a civilized people. The reference is, of course, to taxes —which are collected from, and spent for the benefit of, all of us. Insurance has perhaps not been considered by most people to be a parallel of these governmental functions by acting as a collector and distributor of the losses incurred by humanity as a whole in disaster.

We have just concluded the observance of Fire Prevention Week. There are so many weeks set aside on our calendar for special observance of this and that, some of which are sponsored by commercial interests, that that particular one perhaps did not impose its seriousness on all of you. Suffice to say at this time that every fire or earthquake loss is one which is actual destruction of physical property and will be paid for by all the people, in varying amounts.

Fire insurance, of the two classes of indemnity, is by far the better known for a number of reasons: it is, of course, older, is more widely spread, encompasses in the aggregate much larger values, and is more frequently called upon to alleviate individual burdens. Moreover, considering the nation as a whole, its payments for property damage have little variance through groups of years, or even from year to year.

Such being the case, it is a simple procedure to find on the average how much fire costs each person, or the percentage the total property damage is of the total value of all property which is exposed to that hazard. How should this be justly apportioned?

Should the head of each family be required to pay the same amount throughout the nation? Should the levy be directly proportional to the value of the property subject to the hazard? The Street Railway Company may be able to operate its business by requiring the same fare from each person regardless of whether he rides 6 blocks or 6 miles, whether he weighs 90 pounds or 250 pounds, or whether he stands or sits while riding, but I am quite sure that no one would agree to that type of cost allocation in insurance.

As an example, let us consider a modest single family dwelling as compared with a large woodworking establishment with its saws, planers, jointers, sanders, scrapers, kilns, boilers, open flame glue pots, trash burner, with no refuse collector, no safeguards to electric wiring and appliances, and where the housekeeping is poor. Should the two pay at the same rate for fire insurance? Obviously no.

Should then all woodworking establishments pay at the same rate? Certainly the owner whose plant was constructed of fire-resistive materials, where his electricity was safeguarded, which was equipped with a blower system

A paper prepared by J. E. Shield for the annual meeting of the Structural Engineers Association of California at Santa Maria, Oct. 17, 1936.

automatically carrying away all sawdust, shavings and dust, who maintained no open fires and whose property was protected by an adequate and operative automatic sprinkler system wouldn't feel that his place was as likely to burn as one which did not have that protection. As stated by A. R. Small, President of the Underwriters' Laboratories, "the business of fire insurance is one of selling indemnity for a loss, should one occur, but to do so without consideration of the risk is to gamble, and again, the record proves that, generally speaking, stock company fire insurance has not been a gamble for either the assured or the underwriters".

The just distribution of the fire tax then, is dependent on a number of conditions, which have been weighed as the result of experience. Some of them are, the probability of the subject catching fire due to its inherent qualities or its exposure to others which might, its probable damage if it did catch fire, its salvage properties in the same case, and the means available for minimizing such damage.

Items affecting the above conditions and which go into the makeup of a fire insurance rate are divided into two classes, general as affecting the locality of the subject considered, and specific as to the risk itself. The general items include (as applied to a city or district) reliability and adequacy of the water supply and distribution systems, efficiency and sufficiency of personnel and equipment of the Fire Department, reliability and speed of notification to the Fire Department, structural conditions of the territory considered as regards spread of fire, accessibility of the area for fire defense, and climatic and other circumstances necessary to the complete consideration, such as prevailing winds, humidity, and hot or cold temperatures.

The special items as to the risk itself include area, heights, materials of construction and the manner in which they are used together with their condition; size, number and extent of openings through floors and the protection afforded them; communicating openings with adjoining buildings and their protection; lighting, heating, interior and exterior fire department aids such as standpipes; exterior wall openings with their safeguards; distance to and severity of exposure of exposing buildings; and of course, occupancies. Naturally, under materials of construction are considered the kind of frame and its protection against fire, the material and thickness of walls, floors, roofs and roof coverings, presence and extent of combustible spaces under roofs, partitions, combustible interior finish, skylights, and combustible cornices, additions, awnings or porches.

All of the above are obviously not considered in all classes of buildings but they are mentioned because they are considered in some classifications, and to show how many variables can affect a rate as well as to give you an appreciation as to why authoritative rates can not be named so as to be of use to you other than in a superficial way.

Earthquake insurance at the present time is the little brother of fire insurance, but the family resemblance is so markedly missing in some features as to leave some grave doubts as to the authenticity of common parenthood.

Perhaps the only points of similarity are that the same subjects are covered by the same companies.

As pointed out above, fire insurance is generally carried throughout the country and the world whereas earthquake insurance is only carried in localized districts where the inhabitants feel that that hazard in imminent or financial houses require its protection as part of the security for money loaned. This results in a large portion of the total liability being subject to loss at the same time, that is, a district affected might involve several cities. That would only be a possibility in fire if earthquake or other phenomenon were responsible for the inception of many fires simultaneously.

No one has had therefore the experience necessary to determine exactly what earthquake insurance rates are proper under the conditions that that class of insurance is carried, but our knowledge as to the relative behavior of buildings by class of construction is

rather comprehensive. This experience in addition to San Francisco's record in 1906, encompasses that of Japan in 1923 all occurrences in California since 1915 and some experience in other states.

I believe that you would all admit that an earthquake resistive structure could be built out of almost any kind of building material, if that material were used to its best advantage and if the questions of economy of cost, space and use were disregarded. Those conditions have not governed in the past (except in Japan) and are not likely to do so in the future. Further, the predominant volume of all existing buildings were built with no thought of resistance to a lateral force. Existent buildings, by reason of tradition, habit, sales effort and restriction through building ordinances have become classified into distinct types whose behaviors in earthquake shock have been characteristic. For such types there has been evolved a scale of rates which in the Board of Fire Underwriters we know as Earthquake Tariff. Those rates do not reflect structural damageability necessarily, but damage to all portions of buildings, which might be claimed by an assured in the submission of a proof of loss. They are also essentially a reflection of averages of types rather than of individual buildings, and it is often difficult to ascertain wherein a building varies from average after its completion. You are not primarily interested in existing buildings, except as they mirror buildings to be, and in the southern part of the State you do not now concern yourselves with structures to be designed for vertical loads alone.

Having outlined some of the variables in rate making and the impossibility of rate quotations in the abstract even if such were desirable from your standpoint or mine, I have set forth a few figures on the basis of premiums which, after all, is the ruling interest of a prospective owner. The building classifications used are those of our office and agree with those used in the City of San Francisco. They differ from those used in the City of Los Angeles in that our Class B would there be called Concrete Class A, and their Class B would be included in our Class C.

Assuming as a basis for comparison a building value of $50,000 for all classes of buildings and assuming that insurance would be carried to 90% of the value of the building, which is usual, premiums for average buildings of the various classes would be about as follows on a yearly basis:

	Fire	Earthquake	
Class A	$ 75.00	$132 to $186	
Class B	94.00	162 to 216	
Class C	330.00	324 to 402	(Hollow Tile $675)
Class C Sprinklered	150.00	324 to 402	(Hollow Tile $675)
Class D	675.00	78 to 186	

The figures given for earthquake premiums above do not contemplate buildings designed and constructed to resist lateral forces. If such design is made in accordance with the recommendations of the Board of Fire Underwriters of the Pacific, the above figures might be reduced in any class of building to under $100.00.

Let me again caution you that these figures are only approximate, that they may vary greatly between buildings and districts and that they are valuable only for intercomparison. Accurate figures are available to owners, their insurance agents and other representatives for any particular building proposed, if all necessary information is furnished, and advice freely given as to means of reducing insurance cost at any of our offices.

OREGON STATE CAPITOL COMPETITION

(Concluded from Page 21)

anced everywhere; the elevators are cut down to an absolute minimum (only three) and there is only one (work) space in the entire building without natural light (a legislative Committee Room).

The tower is 250 feet high to the foot of the statue and the completed building would have been over 700 feet long, and the cubage limits were not exceeded as the cubage diagram was marked O.K.

SAN FRANCISCO BAY BRIDGE

At right—View of upper deck of suspension span with its six traffic lanes completely paved.

Below—San Francisco end of top deck, showing main central approach to Fifth Street Plaza with off-ramp (right) to Clementina and First Streets and on-ramp from Harrison and Fremont Streets, San Francisco

Below—View of top deck entrance to tunnel through Yerba Buena Island.

At left—Views of the lower bridge deck with its three-lane paved roadway for trucks and two tracks for railway cars.

Courtesy California Highways and Public Works

WORK OF THE UNDERWRITERS LABORATORIES

AID TO ARCHITECTS IN DETERMINING GOOD MATERIALS

Paper Read by John E. Shield at State Convention of Structural Engineers

THE origin of the Underwriters' Laboratories may be traced back to 1893 when W. H. Merrill, a young electrician, went to Chicago to serve the Chicago Underwriters' Association in inspecting the electrical installations at the Worlds' Fair. He had the laboratory idea so much in mind that it became an obsession, and finally he obtained the necessary insurance support to open a tiny testing-room over the stable of the Salvage Corps. It was equipped with a bench, a table, some electrical measuring instruments, and a few chairs; the force consisted of three men. The quality of the testing work began to attract attention outside of the Middle West, and soon the National Board decided to make an appropriation for it. The Underwriters' Electrical Bureau, as it was first called, now became the Electrical Bureau of the National Board.

During the next few years, the work was broadened to include other branches of fire prevention and fire protection engineering. In November, 1901, the bureau was incorporated as the Underwriters' Laboratories, and, in 1904, having outgrown a two-story building on East Twenty-first Street, Chicago, land was secured on East Ohio Street for the present plant, which has been several times enlarged. Supplementary offices have since been opened in many cities. The number of employees has increased from three to more than two hundred and seventy-five, and the work now covers the United States and Canada, with some business in England, Germany, and France. The annual budget is approximately $300,000.

There is no parallel to this institution in all the world. One might pass its unassuming front without suspecting that behind the rows of quiet windows, Science is waging the war of civilization with fire. It wears a dignified, rather academic air, yet the intensely practical nature of its activities has nothing of the abstract in it. It is a first line of defense for the protection of the American people. It does not exist for the purpose of fighting fires, or even for the removal of hazards; it seeks to prevent the creation of hazards—and has prevented them in countless thousands of cases. It is probably not going too far to state that human life is safer and property more secure in every community throughout the country because of the powerful though unrecognized influence that emanates from East Ohio Street, all of which remains to be proved.

First, however, it is well to recognize that the "fire war" differs from mankind's other struggles in what may be termed its universal latency. Fire possibilities exist on every hand; they are found in the most unthought of places, and continually originating in the most unexpected ways—by a sunbeam chancing to fall upon a telescope standing amid loose papers, by a spark from an accidental hammer blow in a room containing gasoline fumes, and by birds carrying to their nests the butts of carelessly discarded cigarettes. When furniture manufacturers introduced forced-draft ventilators to draw the fine wood dust from their machines into a receiving chamber, the thought of fire hazard was far from their minds, yet disastrous blazes have resulted from this

source. Explosions of dust in flour mills are well known. The kiln drying process for lumber has been a prolific fire cause.

Many Fire Hazards

Invention is a constant hazard; new devices and processes are continually introducing elements of the greatest danger. This already has been noted in the case of electricity, but equally striking is that of the internal combustion engine, which made practical the automobile and the motor boat. It found gasoline a mere by-product and has developed it into a universally useful, universally dangerous commodity, serving mankind in the most important ways but causing innumerable fires. There is a well recognized fire hazard in incubators, in curling irons and permanent hair-waving machines, in rain-coat manufacture, in various polishing, cleaning, and sweeping compounds, and in countless other products and processes.

The celebration of holidays is a factor of no small importance. The fire record of the Fourth of July is too familiar to need discussion, but underwriters realize that Christmas with its Christmas tree decorations, is a constant source of danger.

With the daily use of fire for purposes of cooking, lighting, heating, commerce, industry, art, science, or pleasure by almost every individual in every community; with sparks borne by the winds from smokestacks and chimneys; with barns and houses burned by lightning; with the omnipresent commercial electricity always ready to transform itself into fire through some defect in transmission and with fire hazard lurking unseen in the incessant stream of devices emanating from the busy brains of our inventors, there can be small wonder that appalling destruction marks the pathway of man's most useful servant. It has been regarded as an unavoidable wage for indispensable service; the work of the Underwriters' Laboratories is directed toward a vast reduction in the wage and a notable increase in the service. When this fact is realized, it will be seen that the world has a great stake in the far-reaching but unostentatious work now being conducted by the capital-stock fire insurance business in the interests of civilization as a whole — practically altruistic work undertaken — from an altruistically practical motive.

The Underwriters' Laboratories is essentially a place of activity, and the happenings that take place on its forty-five thousand square feet of floor space are probably as diverse and as interesting as may be found under any roof in America. Its employees are not a force of workmen but a staff of highly qualified experts. The expensive plant is not a money making institution, but an investment by Insurance in the science of protection from fire. Its chief financial support is obtained from the National Board, under whose general direction the work is carried on. Specifically, its purpose is that of furnishing exact knowledge on the "merits of appliances, devices, machines, and materials in respect to life, and fire hazards, and accident prevention."

To this building, therefore, come the thousands of products of hundreds of manufacturers—a layman wonders to see how many different kinds of things are directly or indirectly involved with the fire question — and there they are put through a series of the most exacting tests, by means of scientific apparatus and under the eyes of trained experts.

Good and Poor Hose

For example, the quality of fire hose may be a matter of life or death, for a number of lengths may burst under pressure of the water at just the moment that water, properly directed, may save life. Poor hose may look all right, since the essential rubber tube is covered with fabric. A painstaking method of testing is pursued to uncover the hidden weaknesses, if any. Standardized samples of rubber are taken from the hose and placed in a stretching machine, which slowly and steadily draws them out, longer and longer, thinner and thinner until—snap! the strain has been too great. The exact point is noted on the scale by the watching inspector it shows the elasticity of the rubber. In another room is a quantitative test of sulphur content; here, shredded rubber is treated for its chemical

reactions. Against the wall is a remarkable battery of electrical ovens where rubber is consumed under delicately regulated heat for the ash test. These tests show precisely how the rubber is made, and therefore how long it should last. Manufacturers' claims are of small account when the voice of science has spoken. So delicate are some of these tests that the exact position of the crucible in the oven shows in the results. For a final process, a length of hose is subjected to an increasing water pressure until finally it is compelled to burst, and this point is indicated by a gage. A manufacturer whose hose can satisfy the laboratories need have no fear of the test of service.

Defective insulation developed in many homes has caused the death of many persons; thus the quality of insulation is another of the life or death questions of our day. Many samples of covered wire, accordingly, are received at East Ohio Street for inspection, and special apparatus has been invented for this one purpose. It includes devices for removing the braid and for separating the fabric from the rubber, a scratch-wheel to remove the traces of the impregnating compound, rollers to strip the rubber from the wire, and other rollers to grind it into shreds for the chemical and ash tests. There is a micrometer microscope for determining the thickness of the rubber and a dial micrometer for showing the thickness of the braid; the temperature of all tests is carefully prescribed. All of this ingenious and expensive trouble to pass upon insignificant bits of wire—is it really worth while? Yes, for the wire is the channel for civilization's life force.

Many fires are traceable to matches. These omnipresent bits of wood and paper carry with them a tremendous responsibiliy. Some one has said that the "strike anywhere" match is the greatest of modern criminals. It is interesting to watch the test to determine whether the product of some manufacturer is worthy to bear the laboratories' standard label. A miniature device like a tiny pile-driver drops a weight upon the head of match after match; many of the unlabeled matches ignite and hence are unsafe, while those from the labeled boxes remain intact. The labeled matches also burn without an afterglow and without dropping their heads. A breaking device shows the quality of the wood. The fallen end of a brittle match may flare underfoot and cause a fire. All of these possibilities are considered in making the tests.

There are many rooms in the Underwriters' Laboratories building. They are filled with complicated apparatus and occupied by inspectors who are so intent upon their tests that they give slight notice to visitors; the whole effect is one of concentrated attention. One of them is following the operation of an automatic machine that will turn on and off any electrical switch or socket known to the market. There is a whirring of gears, a snapping of switches, and flashing of light bulbs, all having their meaning to the inspectors eye. Another is experimenting with a gas for use in welding that has been proclaimed as being safer than others.

Sometimes the manufacturers are mightily surprised. One of them felt such confidence in the non-explosive qualities of his particular preparation that he offered to stand by the generator with a lighted cigar. The inspector, wise with the experience of many tests, vetoed the cigar, but finally permitted the enthusiast to stand by the machine. To his consternation, the bell of the generator presently soared to the ceiling with a bang, and he was covered from head to foot with the sludge. A sadder and wiser manufacturer retired to clean his clothes and observed that apparently there was "only one way in which a damned fool could learn anything."

Electrical stoves are found in many kitchens. Here is a stove being put through its paces. The manufacturer claims that it will automatically shut off the current at the danger point, but when the inspector allows current to continue until the heat danger point is reached the shut-off fails to work; the insulation burns and sparks fall on the testing table. In a kitchen such an occurrence might cause

a fire; it is wiser to learn this fact in the laboratory.

The Fool is Always With Us

Such diverse devices as pop-corn machines, automatic photographic devices, dentists' appliances, wired glass, hydrants, meters, nozzles, pipe, pumps and pumping equipment, automatic sprinklers, roofing materials, safes, signal and watch service devices, standpipe equipment, ventilators, window frames, mechanical toys, and countless other things are being examined. The tests in these cases consist in physical inspection for defects that the inspector's trained eye has led him to suspect, and then in operating under the most unfavorable conditions which would be met with in actual use. The fool never will be eliminated from society; safety can be found only in "fool-proof" devices. Appliances in endless variety are being manufactured, bought and inexpertly used by people who are intelligent or stupid, careful or careless as the case may be. The intelligent, careful man may at any time be endangered by the carelessness or stupidity of a neighbor. From this, the work of the laboratories furnished his greatest protection.

Some of the tests are not without spectacular features; among these are those with roofing. One of the many makes of composition roofing is applied to a sloping framework like a steeply pitched roof, and that is literally "tried by fire". In use, it might receive the heat radiation from some neighboring blaze without being actually subjected to flame or sparks. Accordingly, a big drum shaped burner to radiate heat is lowered from the ceiling and made to glow above the sample of the roofing for a specified number of minutes. If no bad results are observed, the protection from radiation is sufficient. The next test is more searching. Suppose that the roof were attacked by actual flame, suppose that the flame were driven by a gale; this might happen in a conflagration and the safety of the house would depend upon a genuinely fire resistant roof. The inspectors do not speculate upon the roof's qualities; they find these out by producing a conflagration and gale to order. For this purpose, a sample is pushed forward to the opening of a huge blower-duct, the jets of a burner are lighted, and the wind machine is set for forty-five miles an hour. There is a roar and a mass of flame leaps from the opening to strike upon the roofing with such intensity that even the inspectors shrink back. The composition roofing in this case was unable to stand the test; almost immediately it began to curl and ignite. That is the answer: it would do this in a conflagration.

There is a special contrivance for submitting firedoors and metal window frames to the intense heat of a conflagration. In some cases the glowing door is taken from the furnace and subjected to the full force of a fire stream. Such conditions might arise in a real emergency, and the inspectors must make sure of what would happen. Formerly the conflagration themselves were the sole laboratories for severe tests; builders and underwriters could only theorize until the catastrophe showed them whether they were right or wrong. Now they have in large part eliminated guess work.

Labeled Materials a Safeguard

So much for a brief and superficial survey of the tests, although their extent has scarcely been indicated. There still remains the important point of making the results of these tests effective by improving conditions out in the world where the fire hazard occurs. This is largely done by means of labels. Take, for example, the single matter of fire hose. The campaign so long waged by the National Board, the National Fire Protection Association, and associated bodies, has called the attention of cities and private users to the importance of having hose that will assure safety. Something better than manufacturers' claims being required, thorough tests are made, as already described, and then to all makes of hose that have proved their worth is affixed the label of the Underwriters' Laboratories. The more important users of fire hose to-day insist upon

being furnished with "labeled" hose, and thus take no chance with its quality. They know that the tests are rigid and impartial, that they are not subject to influence or prejudice, and that the one requirement for any manufacturer is that he be able to meet the exacting standards demanded of him.

This same condition affects extinguishers, wires, electric fans, fire doors, matches, metal polish, or any other of the myriad subjects of investigation; in each case, it is a question of "test and label" and many millions of Underwriters' Laboratories labels have been affixed in the years since this testing service came into being.

Now only are there constant tests in the laboratories of goods sent by the manufacturers, but similar goods are regularly purchased in the open market for check tests and the laboratories' engineers go to many factories for inspection and to label or otherwise mark standard goods. The manufacturers pay for inspection and labels at prices so low that they rarely affect the cost of the goods. There is nothing compulsory about this, no manufacturer need submit to the inspection unless he desires, but he finds sufficient motive in the selling advantage of the label; it is becoming increasingly difficult to dispose of unlabeled goods to important customers. The standard is widely recognized and respected.

But what of the manufacturers of the country—do they cooperate? Their general attitude is one of the most encouraging features of the entire project. Their early suspicions having been disarmed by the efficiency and impartiality of the laboratories' inspections, they show a really enthusiastic spirit of cooperation. Instances of bad faith or opposition are becoming so rare that the inspectors tell of them as a farmer would tell of a two-headed calf.

In July, 1935, two automobile trucks, equipped for market sample testing "on the spot", were put out on the highways. One truck is constantly touring east of the Mississippi River, while the other has toured through Texas, Arizona, and northward in California to Oregon and Washington. Contacts are made with fire department and other municipal officials and with dealers and users of labeled products, mostly electrical. The returns thus far from this new enterprise indicate a valuable educational feature in it, this in addition to its influence as a further countercheck on the factory inspection and labeling work.

Progress work on the Fifth Street Plaza Terminal of the Main San Francisco Approach to the San Francisco-Oakland Bay Bridge. The above photograph was taken looking toward the bridge approach across the eastern point of the Plaza triangle for which an attractive landscaping design has been prepared and is now being worked out.

BAY BRIDGE PLAZA TO BE VERITABLE GARDEN SPOT

THAT part of San Francisco now very much "down at the heel" will soon be transformed into a true garden spot, if present plans of the San Francisco-Oakland Bay Bridge engineers do not miscarry.

The block is at Fifth Street, between Bryant and Harrison Streets, terminus of the main San Francisco approach to the bridge.

Under the direction of Chief Engineer C. H. Purcell and District Engineer Col. Jno. H. Skeggs, transformation of this block is now under way.

A total of 121,000 square feet will be planted with grass, trees, shrubs and flowers at an approximate expenditure of $19,000.

Motorists approaching the bridge will be brought into the "mood" of the great structure, for State Arboriculturist H. D. Bowers, who has designed the landscaping scheme, has carried out the feeling of the bridge in the types of plants he has designated.

Of the 121,000 square feet to be cultivated, 64,000 square feet will be planted in lawn of seaside bent. The remaining 57,000 square feet will be devoted to coniferous plants and flowers.

Two sturdy oak trees will carry out the motif of the bridge's great strength. The branches of eighteen redwood trees, grouped at either side of the approach, will continue in effect the design of the arching cables of the suspension spans which can be glimpsed as the autoist ascends the ramp.

Then there will be 52 trees of the Lawson cypress variety to be planted as a background and serve as a screen for the shabby buildings of the surrounding streets as the motorist first enters San Francisco from the bridge.

Incense cedars (forty of them) will serve as the accent points and give a silhouette effect, while eighteen slender Irish yews will lend a more formal air to the landscape. English holly will provide color and highlight the scene, while a Japanese boxwood hedge will border the area.

In all there will be 26 coniferous varieties,

ARCHITECTS' BULLETIN

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Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

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1936 Convention in Retrospect

Al Evers (left) measuring Harry Devine for a new suit—
Harry is the President-elect, Northern California District

THE Association has passed another milestone and is still more closely knit together. If the Del Monte convention had done nothing else, it would have been worth while in further strengthening our own friendly relations. And it revealed the increasing friendliness and cooperation of other agencies outside the architectural profession, but also interested in good building construction. By far the greatest attention, both in business sessions and in the open Forums, was given to just this topic: continued effort to achieve better building in all its phases—design, construction, materials, maintenance, workmanship—all the safeguards against obsolescence and depreciation. By this convention, the architectural profession has established itself more firmly in its traditional position as leader of the building industry, and has recorded evidence of advances in public confidence.

There is an obvious conclusion to draw—that it behooves us to cherish and maintain a high professional standard of integrity and efficiency.

Convention Business

Officers for 1937 were selected as indicated in the column on the left. The other actions taken by the convention, which in all cases were unanimous, although often preceded by spirited general discussion, will be com-

municated to members after the secretary has had the necessary time to compile and record them. In some instances, such as legislative activities, a policy was approved in principle and the Executive Board authorized to proceed along certain lines. Such policy must be broad enough, flexible enough, to meet conditions as they arise. Many bills are proposed in legislature which contain sections affecting the industry or the profession. No program could be prepared in advance to cover all contingencies; and in the interests of the public, sound construction must be protected by those who are best qualified.

CONVENTION FORUMS

The Friday afternoon session was unmistakably successful. Some of the remarks by guest speakers are published separately in this issue; but it is not possible to convey the personal impressions, the reactions and responses from the audience. In all cases the speakers had definite things to say that were of interest and value to their hearers. Since the subjects discussed varied greatly, no comparisons are involved in saying that D. H. Ryan, Secretary of the California State Council of Carpenters, made the outstanding speech of the day, both on account of his own genial, straightforward personality, and the reasonable, cooperative attitude presented for his craft.

Another excellent impression was made by Russell G. Smith, cashier of the Bank of America, who left no doubt in the minds of his audience that the encouraging policy of his institution in regard to architectural service is based on a sound, business-like analysis of modern realty finance.

H. E. Root, Secretary of the Producers' Council Club of Northern California, offered some pertinent suggestions as to maintenance that deserve careful consideration.

W. E. Hague, Secretary-Manager of the Associated General Contractors of America, Central California Chapter, gave some reassuring statistics as to the stability of construction costs in this area.

ARCHITECTS GIVE VIEWS

Architects' contributions to these Forums were of great interest, but difficult to report; here, too, personality was a potent factor. Our own Fred Ashley explained some of the difficulties of the Federal Housing Administration, and their desire for the profession's help, in solving — or improving — small house design. Roy Kelley and Eugene Weston discussed different aspects of today's problems — and achievements—in design, in Southern California. William Wurster, prevented by sickness from attending, sent a brief letter which suggests so vividly the thoughtful architect's approach to a problem, that we quote it here, in part:

"When you speak of Modern Influence on California Architecture all sorts of thoughts go through my mind, the main thing being a definition of what's meant by 'Modern.' Over and over again I would reiterate that Modern is a **point of view** — not a **style.** And everyone seems so determined to pin set things to it. To me, the true modern changes day by day—so that it is unrecognizable by any definite motif, or material. Its only recognition, I feel, comes from seeing: it is a fresh way of looking at old problems or new problems—in fact, any problem. It does not consist in lugging in exotic new materials at great expense—it doesn't constitute a shift of decoration from round to straight or vice versa.

"Use the site—the money—the local materials—the client—the climate, to decide what shall be; make no arbitrary decisions to be against what has been or only for what is to come.

"See with eyes to the front — be appropriate in what you do—do not be barbaric in a conventional neighborhood, or unnecessarily prim in Bohemia.

"Think of proportions; know that any vertical dimension is far greater to the eye than any horizontal —this difference must be cartooned. The terrace, if usable at 12 feet in width must be 24 feet for appearance—the wall height at 8 feet looks ten feet—and so it goes.

"I hear so much about the rise of the speculative builder, but bad as it seems to us—they fill a need for which we have as yet evolved no solution. I wish I could see a way to be of service in this regard.

"And speaking of service, one hears so little of the attempt of an architect to pour everything he possesses into each job."

CALIFORNIA ARCHITECTURE

Howard Moise, Professor in the School of Architecture at the University of California, summing up the present situation in California, began by saying that Mr. Wurster and Mr. Kelley had been asked to talk about their own architectural offspring, "but I, having no architectural children in California, was no doubt selected to speak on the theory that it is always the maiden aunts and bachelor uncles who know most about the upbringing of children." Mr. Moise quoted from the current Architectural Forum a remark that throughout the country in recent subdivision building operations the "Colonial" is by long odds the most popular style, as an indication of the extreme conservatism that still prevails in the country as a whole, and went on to say "When I traveled across the country and through the East in 1935, I carried in my mind the impression made by an exhibit of Californian domestic architecture which I had seen just before I left, and felt more and more strongly that the Californian product was as a whole fresher, franker and less style-bound than the work in any other part of the country." He pointed out that this was equally true years ago, when he first knew Californian architecture, and cited the "Ark" and Maybeck's work, and, in the south, that of the

early Myron Hunt, Green and Green, and Whittlesey, as evidence.

"But," he said, "in considering the topic I have been given, it seems to me that the significant thing is not the influence of 'Modernism' on California architecture, but the influence of California on Modernism; even those two architects in the south whose success is based on frank importation of the formulas of le Corbusier, Gropius and Ouda (Neutra and Schindler) have not been able to escape the influence of California, but have, consciously or unconsciously, infused these hard northern styles with something more suave and gracious and peculiar to this more smiling land.

PLAGIARISM

"The unfortunate thing, of course — here as elsewhere — is that when architecture of distinction and marked character, such as Mr. Wurster's and Mr. Kelley's, is produced, it immediately gives rise to a host of inferior copies, and in the Bay region we are notably suffering at the present time from what has been facetiously called 'The White Plaque' — numberless 'builders' houses' inspired — if any of them can be called inspired—by the work of Messrs. Kelley and Wurster and Confer and other distinguished architects. These copies vary from the nearly good through the mediocre to the very bad little houses in which intelligent design gives way to the search for the tricky and the 'cute'—no effort spared to make each little house different in some way from its neighbor, no matter how stupid the 'different' item may be. And of course this lands us squarely in the midst of the vexing small house problem.

GROUP HOUSING

"There is, I feel, only one real solution to this problem, and that is intelligently planned group housing (and I wish to express my indebtedness to Mr. Weston for having paved the way for this statement by his similar one and his admirable brief statement of the case for group housing'. But before we can hope to have intelligently planned group housing in any quantity, we must engage in an arduous campaign of educating the general public to accept it. The individualistic attitude in the matter of the house is so strong in the average American that it will not be easy to persuade him to accept the well-designed row house, for instance, in place of the ill-designed and tawdry little free-standing outfit. And, of course, before we can hope to educate the public in this direction, we must arouse a real interest and belief in the importance of group housing and site planning among the architects themselves. This, it seems to me, is one of the most important tasks that confronts the profession today, and as my contribution to the work I am proposing (since I am producing no architectural children of my own—not even colored ones!) to inaugurate in the School next semester a course in which I shall present the case for group housing, and proper zoning, and planned city development, to the young hopefuls who will be the architects of tomorrow."

No, he's not a Commodore. He's Chester Miller, white cap and all, viewing the beautiful Del Monte Tower, the top o' which recalls pleasant memories

CONVENTION ATTENDANCE

Registered at the Del Monte convention (with the invaluable help of our faithful Mr. Bolton) were between 140 and 150—a number small enough to enjoy unity, and large enough to engender enthusiasm. Of these, about 30 were ladies, perhaps 35 were other guests (including a large number of "Producers") and the balance were architects pure and simple. (Misinterpretations barred.) The entire delegation, of course, attended the Convention Dinner on Friday night; the surprise came at the Golf Dinner on Saturday. Usually, at least half leave for home before that event. At Del Monte this year, 61 had registered for the Golf Dinner; but, due, perhaps, to the smooth and enjoyable way things had gone, almost 120 people crowded into the Copper Cup Room Saturday night, which entailed some extraordinary service by the hotel. Without delay or difficulty, seven extra tables were set up and the extra guests were seated and fed to everyone's satisfaction—certainly a tribute to efficient hotel management. Figures for the Golf Tournament will be given in the Golf Chairman's special report.

CONVENTION ENTERTAINMENT

Beginning with the Tower Room "Hospitality Hour" Friday morning, a series of entertainment features was presented which was thoroughly enjoyed by delegates and guests. Richard Dyer-Bennett is a young Englishman who has studied the lute and has a repertoire of old madrigals and

folksongs. His appearance on the balcony and his delicate art of romantic song proved a delightful surprise to add to the other attractions of the picturesque Tower Room.

The Convention Dinner Program started with the famous Pagliacci Prologue — in costume — sung by Marsden Argall, with Frederic Saatmann at the piano. Then these two, with the charming addition of Miss Mildred Warwick Baldwin, delighted the audience with solos and duets until, satisfied but not surfeited, it allowed these fine artists to bow their farewells.

The chairman then read the Convention Poem by Irving F. Morrow. Those who attended the 1934 convention will remember Mr. Morrow's brilliant rhythmic satire written for that occasion; this year's poem, inspired by "A Standard Accounting System for Architects" was equally clever in its good-humored irony. There followed the distinguished "Guest Speaker" who turned out to be "Senator Snargle" and presented a magnificent burst of political oratory interspersed with entirely erroneous references to the architectural profession. The Senator—it need hardly be explained—was our own Abe Appleton, who also presided at the informal Golf Dinner on the next evening with the sparkling wit and savoir faire which we expect when he appears. During this pleasant family gathering, several of the audience were called on to contribute, among them being Winsor Soule and his Santa Barbara quartette, who sang local verses hitting various architects without compunction. And, of course, John Donovan—who could (or would) stop John from adding his pearl or pearls to an evening's treasure heap? Especially when a Scotch Dominie's prayer (via Fred Ashley) reflected upon the Irish.

What with all these cheerful features (not to mention the many desirable golf prizes which will remind lucky architects of this period of good will, the 1936 Convention came to its end happily, with a general feeling of satisfaction, of friendliness, of renewed anticipation.

GOLF TOURNAMENT

Following are the scores of the entrants in the Golf Tournament at Del Monte, October 17:

	Gr.	Hcp.	Net	Bogey
R. C. Compton	74	7	67	71
M. Mackenzie	96	27	69	66
Martin Rist	97	28	69	67
H. E. Burkett	100	30	70	70
A. S. Whitmore	82	11	71	75
Milton Latham	75	4	71	72
Bill Wooldridge	95	24	71	74
R. W. Beard	94	23	71	69
C. E. Butner	89	17	72	75
Mrs. Mackenzie	103	30	73	74
D. D. Davis	85	12	73	73
John Donovan	89	16	73	73
R. I. Stringham	108	35	73	76
H. Hennings	101	27	74	71
H. E. Goodpastor	109	35	74	74
E. Barnett	101	27	74	66
H. E. Root	106	30	76	79
F. K. Pinney	111	35	76	66
N. W. Baird	94	18	76	78
W. P. Day	102	25	77	80
C. Koepp	112	35	77	67
L. White	101	24	77	77
G. R. Kingsland	91	13	78	81
C. R. Epley	96	18	78	79
Harry Devine	103	25	78	78
H. Karstensen	113	35	78	73
J. R. Cahill	97	18	79	79
A. Evers	98	18	80	78
Paul C. Jones	92	12	80	82
H. Hills	99	18	81	83
E. C. Rahn	99	18	81	78
M. L. Barker	106	24	82	76
Dodge Reidy	118	35	83	81
N. Swasey	108	24	84	78
W. D. Peugh	115	30	85	90
A. W. Scott	102	15	87	82
F. H. Reimers	119	30	89	69
H. Michelsen	101	12	89	86
H. C. Allen	120	30	90	85
G. E. Robertson	125	35	90	72
G. F. Ashley	126	35	91	81
W. F. Parsons	128	35	93	68
H. Weeks	129	35	94	92
C. J. Ryland	131	35	96	96
C. A. Caulkins	128	30	98	83
J. L. Meek	133	35	98	88
C. J. Warnecke	140	35	105	70
E. O. Blodgett	142	35	107	107
G. D. Riddle	144	35	109	74
V. Rainey	152	35	117	117
W. Garren	157	35	122	72
W. A. Stephen	167	35	132	97
E. Flanders	187	35	152	102

Men's Putting Contest

Abe Appleton	19
E. N. Kierulff	19
Chas. Miller	20
Sam Heiman	20
Willard	20
Watson	21
F. Meyer	21
V. S. Yallop	23
D. Hintermann	26
Sawyer	27

Nearest to 14th Hole—Men

J. J. Donovan	9 ft. 6 inches
R. Stringham	15 ft.
Butner	24 ft.
Kingsland	24 ft. 8 inches
H. Hills	32 ft. 6 inches
John Cahill	33 ft.
Epley	39 ft.
Michelsen	41 ft.
D. Davis	42 ft.
Milton Latham	54 ft.

Birdies		**Total**
R. C. Compton	3rd, 7th, 13th	3
Milton Latham	9th	1
Don Davis	13th	1
Bill Wooldridge	17th	1
H. Weeks	17th	1
R. I. Stringham	14th	1

Women's Putting Contest

Mrs. Rahn	18
Mrs. Wooldridge	19
E. Barnett	20
Mrs. Michelsen	20
Mrs. Goodpastor	21
Mrs. Koepp	22
Mrs. C. Caulkins	22
Mrs. F. Meyer	22
Mrs. Klein	23
Mrs. Sawyer	23
Mrs. Donovan	24
Mrs. Devine	24
Mrs. Ryland	24
Mrs. Watson	25

EIGHT-HOUR DAY AGAIN

An eight-hour day and 40-hour week will be restored on all public works contracts in San Francisco. This will terminate the 6-hour day in all building trades except those which have an agreement with employers for the shorter day.

With the Architects

$18,000 HOME

Major H. W. F. Hayes has had plans drawn by Leo J. Sharp, 1477 Burlingame Avenue, Burlingame, for an $18,000 house on La Cumber Road, San Mateo County. There will be nine rooms, three baths and two car garage.

Another house soon to be started in Hillsborough has been designed by W. W. Wurster of San Francisco for John R. Hocker.

ARCHITECTS FOR JUNIOR COLLEGE

Messrs. Miller and Pflueger, 580 Market Street, San Francisco, have been commissioned to prepare plans for a group of Junior College buildings for the City and County of San Francisco. Besides an auditorium and administration building, there will be a gymnasium, library, laboratory and three class room structures. The estimated cost of the group is $1,250,000.

THEATER ALTERATIONS AND RESIDENCE

F. F. Amandes, 414 Dewey Street, San Francisco, has completed plans for remodeling the Egyptian Theater on Market Street, San Francisco, and working drawings are in progress for a $20,000 house in the Del Mesa Tract, Marin County, for an unnamed client. Mr. Amandes is also working on sketches for a $15,000 house at Baywood, San Mateo County.

SALINAS ARCHITECT BUSY

New work in the office of Charles E. Butner, Glikbard Building, Salinas, includes an early California residence for Chris Sanoe, a grammar school addition near Soledad and a $20,000 edifice for the First Baptist church of Salinas.

SAN FRANCISCO RESIDENCE

Martin J. Rist, architect, with offices in the Phelan Building, San Francisco, has completed plans for a two story seven room residence to be built on Landsdale Avenue, San Francisco, for Dr. P. A. Taylor at an estimated cost of $11,000.

$900,000 COMMERCIAL GARAGE

The Union Square Garage Association is having plans prepared by G. A. Applegarth for an underground commercial garage in Union Square. Construction will be of reinforced concrete and structural steel. Capacity is expected to be approximately 1100 cars.

HOSPITAL BUILDING

Russell G. DeLappe of Oakland is completing working drawings for a two story hollow tile hospital near Newman, Stanislaus County, for the Newman Hospital Corporation.

ARCHITECTS PLEDGE SUPPORT

The following resolution was adopted by the Executive Committee at the recent convention of the State Association of California Architects at Del Monte:

WHEREAS: The State Association of California Architects has an agreement with **The Architect and Engineer** for the collection and dissemination of construction news through a daily service; and

WHEREAS: This service is of paramount value to the Construction Industry; and the Architectural Profession, and

WHEREAS: The activities and news of the profession are published monthly in a Bulletin in said publication, thus greatly facilitating Association business; now, therefore,

BE IT RESOLVED that the State Association of California Architects in its Ninth Annual Convention assembled in Del Monte, California, on October 16 and 17, 1936, does commend **The Architect and Engineer** for the splendid service they are rendering to the Building Industry and to the Profession, and

BE IT FURTHER RESOLVED, that we pledge to them our individual and collective support in providing them with advance information on construction projects.

PROVISIONAL CERTIFICATES

The California State Board of Architectural Examiners, Southern District, has granted provisional certificates to the following to practice architecture in California: Albert Kahn, 208 Rowena St., Detroit, Mich.; Anthony A. Kauzor, 4954 Cromwell Ave., Los Angeles; John E. Kauzor, 4954 Cromwell Ave., Los Angeles; Gilman B. Young, 809 S. Euclid Ave., Oak Park, Ill.

BERKELEY RESIDENCE

W. R. Yelland, architect in the Financial Center Building, Oakland, has completed working drawings for a $10,000 home in Berkeley for an unnamed client. Bids have been taken and construction is expected to go forward this month.

SEVEN SAN FRANCISCO DWELLINGS

Seven dwellings will shortly be erected by A. J. Herzog, 700 Sloat Boulevard, on Goleta Street, San Francisco, from plans by Albert H. Larsen, 333 Kearny Street, San Francisco.

IN C. F. DEAN'S OFFICE

The office of Charles F. Dean in Sacramento reports plans under way for a one story reinforced concrete grammar school building to cost $50,000 for the City of Sacramento and a $15,000 store building.

PERSONAL

Carl F. Gould, of Bebb and Gould, Seattle, has recently returned from a four-month tour of western Europe. His trip included observations on building developments in France, Italy, Switzerland, Austria, Germany, Belgium, Holland, the Scandinavian countries and Britain.

C. Frank Mahon, architect, recently re-opened his downtown office at Room 432, Provident Building, Tacoma, where he is preparing plans for several school projects and a group of residences.

$800,000 SCHOOL PLANT

Ground breaking ceremonies for starting construction of the new Bellingham High School, Cornwall Avenue and Kentucky Street, were held Tuesday morning, October 6, much to the delight of Floyd A. Naramore, the architect, who designed the plant covering two city blocks and estimated to cost about $800,000.

RESIDENCE WORK

Donald E. Jaekle, 126 Post Street, San Francisco, has completed drawings for the following new work: Residence for Jos. Cresei, house in Millbrae Highlands for C. Behnke, and two houses on Thirty-third Avenue, San Francisco, for Henry Horn of 170 Upland Drive, San Francisco.

HOSPITAL ADDITION

Martin Sheldon of San Francisco has awarded a contract for the construction of a two story reinforced concrete addition to the private hospital of Dr. J. L. Mudd at 1650 M. Street, Merced. The improvements will cost $35,000.

TO MODERNIZE BUILDING

Store and office building remodeling is planned by M. Goldman, owner of the property at Fourth and Hinton Streets, Santa Rosa. C. A. Caulkins is the architect who reports plans also under way for a new jail at Ukiah for the Supervisors of Mendocino County.

ANOTHER NAPA THEATER

A. A. Cantin, architect of San Francisco, has completed plans for a 1300 seat theater for the Realty Finance Corporation of San Francisco. The building will be of structural steel and reinforced concrete and will cost $60,000.

S. CHARLES LEE BUSY

New work in the office of S. Charles Lee, San Francisco and Los Angeles architect, includes remodeling the old Berkeley Theater in Berkeley and an eight room residence for A. Blumfeld in San Rafael.

SAN MATEO RESIDENCE

Chester H. Treichel of Oakland has prepared plans for a house in San Mateo for the Suburban Builders, Inc. The improvements will cost $16,000.

SAN FRANCISCO ARCHITECTURAL CLUB

Kearny Street, San Francisco
WALTER C. CLIFFORD, President
H. WALTER RUPPEL, Vice-President
RICHARD E. AUDSLEY, Secretary — A. N. GRANISH, Treasurer

TRUSTEES

WALDON B. RUE — OTTO G. HINTERMANN — HARRY C. NYE

DIRECTORS

ALBERT KAHL — IRA H. SPRINGER — CHARLES J. CONTI

Plenty of Enthusiasm

With increasing momentum, the activities of the San Francisco Architectural club continue to make splendid progress.

Recent meetings have been exceptionally well attended, and it is interesting to note that the members have taken a decided interest in civic affairs. At the October business meeting the club promised full cooperation with the San Francisco Supervisors and other civic leaders in working for proper legislation prohibiting billboards at the approach of the San Francisco-Oakland Bridge. In this respect the membership has coincided with the opinions of The American Institute of Architects and the State Association of California Architects

Annual Dinner Dance

Plans are being formulated for the annual dinner dance the early part of December. At this writing the location of the party has not been selected, but it will probably be held at one of the down-town hotels. Recent affairs of this type have proved immensely popular and this year's party promises to eclipse all previous attempts.

Atelier Season Opens Auspiciously

The Atelier members started the current season in a very auspicious manner with seven problems submitted in the first project of the year. The problem was "A Medical Clinic", and the club's efforts were judged with those of the University of California Architectural School. The solutions aroused considerable interest among the club members and visitors. Results of the judgment follow:

First Mention Placed—Mario L. Giadano, S.F.A.C.
First Mention—Frank W. Trabucco, S.F.A.C.
Mention—Robert E. Bennett, U. of C.
Mention—Joseph Gnecco, U. of C.
Mention—Clement Mullins, S.F.A.C.
Mention—Albert H. Hill.
Mention—W. H. Patton.

The awards were made only after a deliberation of over three hours by the jury, which consisted of Messrs. John Bakewell, Henry H. Gutterson, and George W. Travis, for the Institute; Mario Ciampi, representing the San Francisco Architectural Club, and Prof. Howard Moise, U. of C.

RENO RESIDENCE

A house designed in the French Normandy style will be built on Gordon Avenue, Reno, for Mrs. Harry C. Bond. The plans have been prepared by W. E. Coffman, architect of Sacramento, who states the house will represent an investment of $16,000.

President
John B. Leonard
381 Bush Street
San Francisco
Vice-President
William Adrian
Directors
John J. Gould
William H. Popert
Jesse Rosenwald

STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA

Secretary-Treasurer
Theo. P. Dresser, Jr.
624 Sacramento St.
San Francisco
GArfield 1697

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Chairman of Standing Committees for 1936-37: Executive, W. Adrian; Program, H. B. Hammill; Membership, Hyman Rosenthal; Professional Activities & Welfare, H. M. Engle; Publicity, William H. Popert; Legislative, L. H. Nishkian; Fees, Jesse Rosenwald; Structural Engineering & Research, John J. Gould; Salaries & Relations between Employers & Employees, A. W. Anderson; Professional Training, A. V. Saph, Jr.; Building Inspector, H. B. Hammill.

FIFTH ANNUAL CONVENTION AT SANTA MARIA

THE fifth annual state convention of the Structural Engineers Association of California was held in Santa Maria, October 17 to 19th inclusive. Some seventy-five of the leading consulting structural engineers of the state were present, the attendants making their headquarters at the Santa Maria Inn. Meetings were devoted to the presentation of papers and reports by members of the association, followed by general discussion. One afternoon was spent in golf and other diversions and the closing event was a get-together banquet.

The convention was opened by Murray Erick, President of the Association of Southern California, who presided and reported on the progress by the State Association during the past year.

John E. Shield, structural engineer of the Board of Fire Underwriters of the Pacific, read a paper entitled "Statistics on Insurance, Both Fire and Earthquake for Various Types of Buildings", and quoted insurance tariffs on a building costing $50,000, assuming different classes of construction and explained the reason for varying earthquake insurance rates. Mr. Shield also described the experimental and practical laboratory of the Board of Fire Underwriters where important tests are made on different classes of building construction materials to determine their fire resisting values. These materials include fire hose and electrical fixtures.

Robert L. Gordon, manager of the appraisal department of the Bank of America, spoke on "Financial Problems of Construction." He outlined the method used by financial institutions when making investigations prior to consummating loans. He advocated good construction and explained why buildings

GROUP PICTURE OF STRUCTURAL ENGINEERS AT STATE CONVENTION, SANTA MARIA, CALIFORNIA, OCTOBER 17-19

well constructed will receive financial aid quicker than those poorly constructed. He said that banks are more favorable to employing engineers and architects to assist them in determining the value of constructed works, before making loans.

During the evening session, Clarence H. Kromer, principal structural engineer of the Division of Architecture, California State Bureau of Public Works, with headquarters in Sacramento, gave a report on "Progress made Toward Adoption of Revised Appendix 'A'." Appendix "A" as the Public School building code has generally come to be known, is that portion of the rules and regulations of the Division of Architecture which sets up minimum requirements as a basis for approval for structural design as well as for materials and details of construction.

The only paper presented by a structural engineer of Northern California was the one on "Professional Training" by A. V. Saph, Jr., chairman of this work in San Francisco. Training, he said, starts in the High School and Junior Colleges when the embryo engineer is first informed of the meaning of structural engineering. While in college, he is invited to the meetings of the structural engineers, and is assisted in the selection of his thesis subject in his senior year. Upon graduation he is helped in finding employment which best fits his qualifications; and during all this time is under the tutorage of a professional structural engineer.

Jesse Rosenwald, structural engineer of San Francisco, made an informal report on "Fees" which was followed by discussion by members from Southern California. It was the hope of all members present that the fees charged should be consistent for the various classes of construction and should be uniform for all of the state.

The closing event of the convention was the banquet attended by all members, ladies and guests. The main event of the evening was the skit arranged by Hyman Rosenthal who represented the "Honorable T. MacMortar Brickbat."

It was the consensus of opinion that this was the best convention ever held by the Structural Engineers of California, and much was accomplished to develop a spirit of co-operation among the structural engineers of the state.

Professional Training

Following is Mr. Saph's report in full of the Professional Training Committee:

It is with a certain amount of modesty that this committee presumes upon the valuable time at our convention. These conventions, occurring once a year, with so much to be considered, offer a problem of constructive use of time. It is felt that the subject matter and the work of this committee is one of the most constructive activities which the Association can enter into.

To give this report a personal touch, the members of the committee are: Ex officio: Jno. B. Leonard, President; W. Adrian, Vice-President; William H. Popert, Chairman of Publicity Committee. Working: C. N. Bley, E. O. Burgess, Walter Dreyer, T. P. Dresser, Jr., W. E. Emmett, J. J. Gould, Harold B. Hammill, C. H. Kromer, F. M. Panhorst, H. C. Powers, Professor J. B. Wells and Professor C. T. Wiskocil.

This is a new committee. The original thought behind the committee was suggested by a situation which was apparent—there were practically no members in our Association under 35 years of age. A survey of the principal private offices showed that possibly three or four younger men had been broken in during the last seven or eight years. Also, that the members of the profession divided themselves in general into groups, depending on the time of graduation from college; for instance, if a man graduated at the time of the earthquake, or the 1915 Exposition, positions were available, and therefore the tendency was to follow the line in which he started. This situation was not deemed healthy for a real profession in that a real profession requires training and experience, and continuity of opportunity. For the profession and private practice to survive, each year a certain number must be properly prepared and trained even though it entails a strain in periods of low volume of construction.

The first undertaking of this committee was to outline the work. The work seemed to divide itself into three parts: high school and junior college stage; junior and senior years at a university; and after graduation but before attaining full membership in our Association, or becoming licensed by the state.

Taking these headings in order, the committee decided that during high school and junior college time there existed a field for constructive work by the Association; first, to provide authentic information as to structural engineering as a profession; second, to provide some source, such as a committee, to answer any questions which might be referred. For immediate activity, the committee decided to make a survey of literature already available, and to attempt the preparation of a syllabus for the use of high schools by principals and counsellors. This syllabus is to trace the various steps, prerequisites and training for the profession, whether the steps be from high school to college or from college to the practicing field.

Under the second heading, during junior and senior years at a university, suggestions as to activity included the following: (1) to interest our members in meeting students and to provide interesting speakers for student meetings; (2) to extend invitations to the students of the several universities to attend all of our open meetings; (3) to have meetings at the universities; (4) to establish a definite contact with the universities through some member of the faculty who is also a member of the Association; (5) to have our members suggest thesis subjects and act as technical advisors on thesis work; (6) offer a prize for some outstanding accomplishment or outstanding ability; and (7) from time to time bring the student to our Association meetings and have talks by student speakers on their thesis subjects.

For immediate activity, in order to establish the best method of procedure, the committee has taken three steps under this heading. The committee has Professor Wells, of Stanford University, and Professor Wiskocil, of the University of California, as active members. They are most enthusiastic, and have offered many valuable suggestions. The Association has canvassed its members with a questionnaire on suggested thesis subjects. Twenty-three of our members replied promptly, giving many suggestions which both Professor Wells and Professor Wiskocil say are quite satisfactory. Further, our members have willingly offered to act as technical advisors. This committee had a special meeting of the Association where all present spoke. The attendance included fourteen students from Stanford and fourteen from California . . . the students were carefully selected and about ready to graduate. The purpose of this meeting was to get acquainted and to give our

members some idea of the student problem. From our members four principal speakers were selected, each speaking upon some personal professional experience. The students were called upon to reply to one of the following: (1) Why I selected structural engineering as a profession; (2) What particular phase of structural engineering appealed to me during my college course, and why I would like to follow that particular phase; or (3) to ask some question to be answered by one of our members. This meeting was very successful in that the reaction both from the students and from our members was beyond our fondest expectations.

The third phase, after graduation, seemed to divide itself into two parts: (1) the first year after graduation and before the young engineer became eligible for membership in the Association as a Junior; and (2) from one year after graduation until qualified for licensing under the State laws. During the first year after graduation the purpose is to aid the graduate in proper apprenticeship through the securing of suitable employment, and to maintain a contact by inviting him to interesting meetings and sponsoring excursions to plants which manufacture building materials, and excursions to work under construction; in other words, activities which the older engineer has seen many times, but which are necessary in the development of any engineer. After one year from graduation it was realized that the Association could arrange reading and home study courses; could sponsor special university extension courses; and could cooperate with the Board of Registration for Civil Engineers in standardizing the procedure to qualify as a certified structural engineer.

Proceeding cautiously with this program, the committee in a limited way has attempted to assist the graduate in obtaining suitable employment. It has started a study which should eventually result in a program of study and experience which, when properly gone through, will improve the qualifications of engineers and remove much of the hardship and uncertainty confronting the properly qualified applicant for structural engineering registration.

Another field, not worked out, is in connection with the young architect who is required to pass a structural engineering examination for licensing. His attitude is one of "get by." The underlying thought is that if the applicant were properly prepared, and the examination properly given, the subject matter would be such as to make the architect better qualified to appreciate the problem of structural engineering, rather than to know just enough to "get by" and spend a lifetime as a drag on our profession.

This committee decided that material interests could well arrange to have courses to acquaint the young engineer with the manufacture and practical usage of a particular construction material. It has been gratifying to note that the steel companies, and many other companies, are very interested in our work, and voluntarily are taking a limited number of selected honor students and are training them for a period of time. This, of course, is in anticipation of obtaining suitable employees, but there is no reason why that program could not be extended slightly.

In conclusion, since this is a pioneering activity, this brief report must be somewhat rambling. It seemed advisable at this convention to devote a little time to the subject, and thereby stimulate thought by all of our members, as the committee early decided that the larger part of this program could best be carried on by the individual members rather than by the Association. Suggestions from a similar committee of the South, and the cooperating with such a committee are expected, thereby assuring a co-ordinated program which will result in the advancement of the structural engineering profession in the eyes of the public.

NOVEMBER MEETING

The November meeting of the Structural Engineers Association of Northern California was held in the Engineers Club, 206 Sansome Street, San Francisco, Tuesday evening, the 10th.

The guest speaker was Harold Perrine, chief engineer of the Industrial Materials Division, Owens-Illinois Glass Company, Toledo, Ohio. Mr. Perrine's subject was Glass Block Construction and was illustrated with slides showing the uses of glass in typical examples in building construction. The speaker explained the performance of glass blocks as structural members and as fire resisting materials.

After the formal meeting a business session was held and reports were received from the chairman of the regular standing committees.

TO ENFORCE STATE HOUSING ACT

Pacific Coast Building Officials Conference held its annual meeting in San Francisco October 5 to 8 inclusive. The convention went on record as favoring the uniform enforcement of the State Housing Act and asking the governor to furnish the "necessary instruction and personnel" to the Commission of Immigration and Housing to make this possible. Conditions which impelled the action of the Conference were described in an address by Albert J. Evers of San Francisco on "The State Housing Act." He appealed to the Conference for co-operation in the movement to strengthen the hands of the housing commission, previously endorsed by the State Association of California Architects, and secure more strict enforcement of the provisions of the law. Following is the text of the resolutions adopted by the Conference:

Whereas, the State Housing Act of California has been on the statute books of the state for many years, and

Whereas, it is a matter of common knowledge that many communities do not enforce the provisions of the act, and

Whereas, the lack of enforcement is detrimental to the health and safety of the citizens of the state and depreciating to the value of their property; therefore, be it

Resolved, that the Pacific Coast Building Officials Conference in its 14th annual meeting assembled in San Francisco, California, October 5th, 6th, 7th and 8th, 1936, respectfully recommend to the Honorable Frank F. Merriam, governor of the state of California, and to his administration, that they investigate and verify this condition and that this Association petition him to furnish the necessary instruction and personnel to the Commission of Immigration and Housing to insure the uniform enforcement of the State Housing Act throughout the state, and be it further

Resolved, that copies of this resolution be sent to other organizations of building industry with the request that they take similar action.

The most important business before the Conference was consideration of the report of the committee on Uniform Code changes appointed at the last annual meeting in anticipation of publication of the 1936 edition of the Uniform Building Code.

NORTHERN CALIFORNIA CHAPTER

The regular meeting of the American Institute of Architects, Northern California Chapter, was held at the St. Germain Restaurant, San Francisco, Tuesday evening, September 29th. Will G. Corlett presiding.

This was the first meeting following the summer recess and was well attended. The following were present:

Messrs. Harris C. Allen, Wm. Clement Ambrose, John Bakewell, Jr., John Knox Ballantine, Jr., E. Geoffrey Bangs, Morris M. Bruce, Henry C. Collins, Will G. Corlett, John J. Donovan, Albert J. Evers, Wm. I. Garren, Henry H. Gutterson, Wayne S. Hertzka, Raymond W. Jeans, Ellsworth E. Johnson, Gwynn Officer, Charles F. Masten, Charles I. Maury, Harry Michelsen, James H. Mitchell, Howard Moise, Irving F. Morrow, John B. McCool, Wallace H. Stephen, Alfred C. Williams, Wm. Wilson Wurster.

President Corlett stated that the Institute by-laws had been widely amended and recodified at the last convention and he thought, perhaps, that the Chapter by-laws were no longer consistent with these changes. A committee composed of Messrs. Moise, Bangs and Mitchell was appointed to compare the two documents for report at the October meeting.

Mr. Gutterson requested members to give their attention to the prospectus on the Standard Accounting System recently published by the Institute.

A letter from the Architects Home Service Bureau requested the backing and financial support of the Chapter. Various members attested that the Bureau definitely informs the public that good design and construction are best obtained through proper architectural service and its adopted policy requires adequate compensation to architect members for work handled by it. In these respects the Bureau was thought to have greatly benefited the profession, and it was referred to as one of the most noteworthy organizations of its kind in the country. The motion of Mr. Garren with amendment by Mr. Donovan was unanimously passed as follows:

"Moved that the Chapter extend endorsement and financial assistance to the Bureau and that at the October meeting the Board of Directors submit their recommended amount of grant for further consideration and approval."

It was proposed that the Chapter extend an invitation to the board of directors of the Institute to hold the A. I. A. Convention in San Francisco in 1939, the year of the Exposition. Enthusiastic and unanimous approval was given the proposal and Mr. Evers, Regional Director, was requested to convey the invitation to the Institute.

The Nominating Committee, through John Bakewell, Jr., chairman, submitted a list of candidates for office for the year 1936-37 as follows:

President, Will G. Corlett; Vice-President, Warren C. Perry; Secretary-Treasurer, James H. Mitchell; Directors for three years, Ernest Weihe and Timothy L. Pflueger.

The report was unanimously accepted.

Mr. Morrow reported on the sign and bill board ordinance for the control of advertising adjacent to the Bay Bridge approach and moved its approval. The motion with amendment by Mr. Evers that the Chapter take aggressive action in support of the ordinance was unanimously carried. The secretary was instructed to communicate with the Board of Supervisors and its streets and traffic, safety and police joint committee urging immediate favorable action for passage of the ordinance. Mr. Donovan was appointed representative to attend the Supervisors' meetings as the Chapter's spokesman. Other members were asked to be present.

During the discussion, Mr. Ambrose stated that the Chapter should be interested in learning if the Bridge Authority intends to permit the bridge proper to be disfigured by signs as has been done on the Ferry Building by the Harbor Commission.

The San Francisco Federation of Arts called attention by letter to the published sketch for the landscaping of the Bridge Plaza and requested the Chapter to seek improvement of the design. On motion of Mr. Wurster it was voted the published sketch be brought to the attention of the Consulting Board of Architects of the Bay Bridge with request that this body give utmost heed to the adornment of the Plaza so that its beauty will be outstanding and appropriate for the bridge structure.—J.H.M.

SOUTHERN CALIFORNIA CHAPTER

The annual reception and dinner-dance of Southern California Chapter, The American Institute of Architects, was held at the Flintridge Country Club, Los Angeles, October 13.

Sumner P. Hunt, a charter member, was presented with a life membership in the Chapter, the presentation being made by David J. Witmer.

The life and work of Paul Cret was reviewed by D. C. Allison. A photographic exhibit of some of Mr. Cret's work was on display.

Following the program, at which Ralph C. Flewelling presided, the assemblage was entertained by Senor Corral's Mexican orchestra.

SEATTLE ARCHITECTURAL CLUB

Resumption of fall and winter activities are being planned by members of the Seattle Architectural Club, according to Elso B. DiLuck, of Graham and Painter, Dexter Horton Building, Seattle. All young men and women in the city engaged in architectural pursuits are invited to confer with President DiLuck in regard to making out a fall and winter program and arranging social gatherings.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.

Brickwork—
Common, $40 to $45 per 1000 laid, (according to class of work).
Face, $75 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $ .75 sq. ft.
Common f.o.b. cars, $12.00 job cartage.
Face, f.o.b. cars, $45.00 to $50.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 84.00 per M
4x12x12 in.	94.50 per M
6x12x12 in.	126.00 per M
8x12x12 in.	225.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots.

8x12x5½	$ 94.50
6x12x5½	73.50

Discount 5%.

Composition Floors—18c to 35c per sq. ft. In large quantities, 16c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c per sq. ft.
Terezzo Floors—45c to 60c per sq. ft.
Terezzo Steps—$1.60 lin. ft.

Concrete Work (material at San Francisco bunkers)—Quotations below 2000 lbs. to the ton. $2.00 delivered.

No. 3 rock, at bunkers	$1.80 per ton
No. 4 rock, at bunkers	1.75 per ton
Elliott top gravel, at bunkers	2.10 per ton
Washed gravel, at bunkers	2.10 per ton
Elliott top gravel, at bunkers	2.10 per ton
City gravel, at bunkers	1.75 per ton
River sand, at bunkers	1.80 per ton
Delivered bank sand	1.20 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.

Cement, 2.50 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $3.00 per bbl.
Cement (f.o.b. Job, Oak.) $3.00 per bbl.
Rebate of 10 cents bbl. cash in 15 days.

Calaveras White	$6.00 per bbl.
Medusa White	$8.00 per bbl.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.
4-inch concrete basement floor ..... 12½c to 14c per s.f. ft.
4½ inch Concrete Basement floor..... 14½c to 16c per sq. ft.
2-inch rat-proofing ..... 7½c per sq. ft.
Concrete Steps ..... $1.50 per lin. ft.

Damppproofing and Waterproofing—
Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.00 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $7.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—
Sand, 50 cents; clay or shale, 80c per yard.
Teams, $12.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $85.00 per balcony, average.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot. Plate 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 35c per sq. foot
Obscure glass, 26c square foot.

Note—Add extra for setting

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site).

No. 1 common	$34.00 per M
No. 2 common	29.00 per M
Selection O. P. common	39.00 per M
2x4 No. 3 form lumber	24.00 per M
1x4 No. 2 flooring VG	60.00 per M
1x4 No. 3 flooring VG	50.00 per M
1x6 No. 2 flooring VG	60.00 per M
1¼x4 and 6, No. 2 flooring	65.00 per M

Slash grain—

1x4 No. 2 flooring	$48.00 per M
1x4 No. 3 flooring	40.00 per M
No. 1 common run T. & G.	33.00 per M
Lath	7.00 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.10 per bdle.
Redwood, No. 2	.90 per bdle.
Red Cedar	1.00 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T. & G. Maple	$120.00 M ft		
1 1-16x2¼" T & G Maple	132.00 M ft		
⅞x3½ sq. edge Maple	140.00 M ft.		
	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq.Ed.
Clr. Otd. Oak	$200.00 M	$150.00 M	$180 M
Sel. Otd. Oak	140.00 M	120.00 M	135 M
Clr. Pla. Oak	135.00 M	107.00 M	120 M
Sel. Pla. Oak	120.00 M	88.00 M	107 M
Clear Maple	140.00 M	100.00 M	
Laying & Finishing	13c ft.	11 ft.	10 ft.

Wage—Floor layers, $7.50 per day.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, 500 ft. roll	5.00
Brownskin Pro-tect-o-mat, 1000 ft. roll	10.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45 per ton.

Millwork—
O. P. $105.00 per 1000. R. W., $110.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $8.00 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.50 each.
Screen doors, $4.00 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high per lineal ft., $6.50 each.
Dining room cases, $7.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $14.00 per M.
For smaller work average, $32.50 to $40.00 per 1000

Marble—(See Dealers)

Painting—

Two-coat work ..... 29c per yard
Three-coat work ..... 40c per yard
Cold Water Painting ..... 10c per yard
Whitewashing ..... 4c per yard
Turpentine, 80c per gal., in cans and 75c per gal. in drums.
Raw Linseed Oil—80c gal. in bbls.
Boiled Linseed Oil—85c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10 3/4c
500 lbs. and less than 1 ton lots	11c
Less than 500 lb. lots	11 1/2c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10 3/4c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11 1/2c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net. wt.	12 1/2c
500 lb. and less than 1 ton lots	12 1/2c
Less than 500 lb. lots	13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.75 lineal foot
12-inch	2.00 lineal foot

Plastering—Interior—

	Yard
1 coat, brown morter only, wood lath	$0.75
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	.90
3 coats, metal lath and plaster	1.35
Keene cement on metal lath	1.30
Ceilings with 3/4 hot roll channels metal lath	.75
Ceilings with 3/4 hot roll channels metal lath plastered	1.50
Shingle partition 3/4 channel lath 1 side	.85
Single partition 3/4 channel lath 2 sides 2 inches thick	2.75
4-inch double partition 3/4 channel lath 2 sides	1.30
4-inch double partition 3/4 channel lath 2 sides plastered	3.00

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.20
2 coats Celaveras cement, brick or concrete wall	1.35
3 coats cement finish, No. 18 gauge wire mesh	1.50
3 coats Celaveras finish, No. 18 gauge wire mesh	2.00

Wood lath, $6.00 per 1000.
2.5-lb. metal lath (dipped) ..... .17
2.5-lb. metal lath (galvanized) ..... .20
3.4-lb. metal lath (dipped) ..... .22
3.4-lb. metal lath (galvanized) ..... .28
3/4-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack)
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $19.50 ton.
Plasterers Wage Scale ..... $1.25 per hour
Lathers Wage Scale ..... 1.25 per hour
Hod Carriers Wage Scale ..... 1.10 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $65.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $6.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $6.50 per sq.
Tile, $20.00 to $35.00 per squere.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 to $60.00 per sq. laid according to color and thickness.

Sheet Metal—

Windows—Metal, $2.00 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, 90c sq. ft. (not glazed).
Galvanized iron. 25c sq. ft. (not glazed).

Steel—Structural

$100 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $80 to $90 per ton cost of steel; average building, $89.00.

Steel Reinforcing—

$100.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00, Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, Etc.—(See Dealers)
Asphalt Tile—18c to 28c per sq. ft. installed.

SAN FRANCISCO BUILDING TRADES WAGE SCALE

Recommended by the Impartial Wage Board, June 18, 1936. Effective July 1, 1936

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein. This scale applies only to work on buildings and does not include inside or shop workers.

CRAFT	Journeymen Mechanics
Asbestos Workers	$ 8.00
Bricklayers	12.00
Bricklayers' Hodcarriers	8.00
Cabinet Workers (Outside)	9.00
Carpenters	9.00
Cement Finishers	9.00
Cork Insulation Workers	9.00
Electrical Workers	10.00
Electrical Fixture Hangers	8.00
Elevator Constructors	10.40
Engineers, Portable and Hoisting	9.00
Glass Workers (all classifications)	8.50
Hardwood Floormen	9.00
Housesmiths, Architectural Iron (outside)	9.00
Housesmiths, Reinforced Concrete, or Rodmen	9.00
Iron Workers (Bridge and Structural)	11.00
Iron Workers (Hoisting Engineers)	11.00
Laborers (six-day week)	$ 5.50
Lathers, Channel Iron	10.00
Lathers, all others	9.00
Marble Setters	10.00
Millwrights	9.00
Mosaic and Terrazzo Workers (outside)	9.00
Painters	9.00
Painters, Varnishers and Polishers (outside)	9.00
Pile Drivers and Wharf Builders	9.00
Pile Drivers Engineers	10.00
Plasterers	12.00
Plasterers' Hodcarriers	8.00
Plumbers	10.00
Roofers (all classifications)	8.00
Sheet Metal Workers	9.00
Sprinkler Fitters	10.00
Steam Fitters	10.00
Stair Builders	9.00
Stone Cutters, Soft and Granite	9.00
Stone Setters, Soft and Granite	12.00
Stone Derrickmen	9.00
Tile Setters	10.00
Tile, Cork and Rubber	9.00
Welders, Structural Steel Frame on Buildings	11.00
Welders, All Others on Buildings	9.00
Dump Truck Drivers, 2 yards or less	6.00
Dump Truck Drivers, 3 yards	6.50
Dump Truck Drivers, 4 yards	7.00
Dump Truck Drivers, 5 yards	7.00
Dump Truck Drivers, 6 yards	7.50
Truck Drivers of Concrete Mixer Trucks:	
2 yards or less	6.50
3 yards	7.00
4 yards	7.50
5 yards	7.50
6 yards	8.00

GENERAL WORKING CONDITIONS

1. Eight hours should constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period should be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday, inclusive, should constitute a week's work, except for building laborers.
5. The wages set forth herein should be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs except for intra-city ta es should be paid by contractor.
8. Traveling time in excess of one hour each way should be paid for at straight time rates.
9. Overtime should be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter should be paid double time. Saturdays (except for Laborers), Sundays and Holidays from 12 midnight of the preceding day, should be paid double time. Irrespective of starting time, overtime for Cement Finishers should not commence until after eight hours of work, except that after 12 midnight overtime for cement finishers should be paid at the rate of time and one-half for the first four hours and double time thereafter. Shift work for cement workers should be subject to the provisions of paragraph 11.
10. On Saturday Laborers should be paid straight time up to eight hours. Overtime rates should be paid as specified in paragraph 9.
11. Where two shifts are worked in any twenty-four hours, shift time should be straight time. Where three shifts are worked, eight hours' pay should be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, should be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men then reporting for work should work at straight time. Any work performed on such jobs after midnight should be paid time and one-half up to four hours of overtime and double time thereafter.
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided should be entitled to two hours' pay.
16. This award should be effective in the City and County of San Francisco.

STATE BUILDERS' EXCHANGE

Amendments to the California State Contractors Act were discussed at the annual meeting of the State Builders' Exchange, at Santa Barbara, September 25 and 26 and the convention voted to ask the State Contractors' License Board to submit for consideration such amendments as they deem necessary.

Ralph E. Homann of the legislative committee reported recommendations of the committee for elimination of the $200 exemption and agricultural clauses, and amendments requiring all contractors to post their names and license numbers of all jobs and clarifying amendments made at the last session of the State Legislature. The committee was also opposed to prequalification of a technical character and examination until such proposals were presented in definite form. The report was adopted.

The State Contractors' License Board was given a vote of confidence and appreciation by the State Exchange. The board is open for constructive suggestions or criticisms. Registrar Anderson reported 26,234 licenses and all but 12% reporting on their state compensation insurance. Inspectors are now busy checking those delinquent.

Resolutions were adopted by the convention providing for appointment of a committee to study compensation insurance rates and urging the Federal government to adopt a 40-hour week instead of a 30-hour week.

Directors were elected for the coming year as follows:

C. W. Pettifer, Long Beach; W. T. Loesch, Pasadena; L. S. Peletz, Stockton; Hugh McNulty, Frenso; H. L. Sweeney, Santa Barbara; Roy Butcher, Santa Clara County; Allyn Burr, Sacramento; F. M. Booth, Yuba-Sutter; W. Sorensen, Orange County; A. O. Calhoun, Santa Monica; W. H. George, San Francisco; W. G. Thornally, Oakland; P. M. Sanford, Contra Costa County; J. W. Blean, Colusa County; R. E. Homann, Los Angeles; Geo. J. Haddix, San Pedro; F. A. Plummer, Salinas.

L. S. Peletz of Stockton was chosen president; H. L. Sweeney of Santa Barbara, first vice-president; Roy M. Butcher of Santa Clara county, second vice-president; Walter Sorensen of Orange county, third vice-president, and W. G. Thornally, Oakland, fourth vice-president. H. R. Cayford was elected secretary-treasurer, with Dave Bunker and Franklyn Smith, assistants.

Members of the executive committee are: L. S. Peletz, C. W. Pettifer, P. M. Sanford, R. E. Homann and W. G. Thornally.

STANDARD ACCOUNTING SYSTEM

A brochure completely illustrating the standard accounting system for architects is now being mailed from The Octagon, Washington, D. C., to every member of The American Institute of Architects.

The brochure illustrates and describes the following:

(1) Manual of Accounting—a book of 132 pages of text with an extensive supplement of schedules and plates;

(2) Binders for holding the accounting forms. These binders are available in sectional post or chain post type. They are covered with cowhide leather, imitation leather, or canvas and leather, as selected. Monel edges are furnished on the principal binders, at slightly additional cost;

(3) The Accounting Forms. Each form is illustrated —full size—true to color and correctly ruled.

The brochure describes every item composing the accounting system as a whole. Illustrations are in color, full size. Sizes, quantities and prices are set forth in detail.

This new document will prove to be a helpful guide to the architect who wishes to improve his office practice. It should be saved as a permanent source of information on good accounting methods. The edition is limited.

Substantial discounts are offered to all members of The Institute.

ANNE BREMER MEMORIAL LIBRARY

The Anne Bremer Memorial Library at the California School of Fine Arts was formally opened October 23. The library is the most complete reference library in the West for student and artist. Reference material is available on the history, philosophy and aesthetics of art, chemistry of painting, technique in all phases of art expression.

As an example—of particular value are a set of books "Ancient Egyptian Paintings" containing reproductions in color of wall decorations in temples and tombs of Egypt. A rare book by Senefelder, the inventor of the process of lithography published in 1819; which is so complete, experts say that subsequent development has been able to add little to the facts contained in this book.

A collection of colored reproductions of the work of modern painters and water-colorists; and a large periodical section devoted to art topics are of assistance to the student.

Rare editions and bindings, many first editions and autographed copies add to the monetary value of the library aside from the scope of the reference material it contains.

LUMBER ASSOCIATION APPOINTS MANAGER

Harold R. Northup, formerly of the Washington, D. C. office, is now manager of the San Francisco office, National Lumber Manufacturers Association.

Mr. Northup succeeds A. C. Horner, who is active in a new company, Western Timber Structures, Inc., which is controlled by a number of Pacific Northwest producers of Douglas Fir lumber suitable for high-grade structural use. The main objective of the new company is to market pre-fabricated framed timber structures, taking advantage of the economy and efficiency possible with timber connectors. Structures for industrial use, roof trusses, etc., will comprise the output.

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EXHIBITIONS—NOVEMBER AND DECEMBER, 1936

(San Francisco Museum of Art)

American Forerunners of Contemporary Painting. Including important works by Eakins, Ryder, Homer, Duveneck, Bellows, Luks and many others. Closing November 30.

Eleventh Annual Exhibition of the San Francisco Society of Women Artists. Closing November 29.

Exhibition of the Northern California Chapter of the American Institute of Decorators. November 4-December 6.

Second Water Color Exhibition of the San Francisco Art Association. November 6-December 6.

Wash Drawings of the Bay Bridge by H. Oliver Albright. November 6-November 29.

Portrait Drawings of Bridge Celebrities by Peter Van Valkenburgh. November 6-November 29.

American Artists Group Print Exhibition. November on the press, which will be issued next month, will bring the code up to date, revisions being made to conform to the last available code standards of the American Concrete Institute, American Institute of Steel Construction and research data of the Forest Products Laboratory.

DINING ROOM WALLS

Of all rooms in the home, the dining room may well carry an air of dignity. But it need not be somber. Restfulness and quiet beauty should charm both occupants and guests, to the great satisfaction of the hostess. Painted walls contribute much. The right color sets a flattering background for diners, throwing into effective contrast the table decorations, drapery fabrics and furniture woods. As the room is used only two or three times a day, its walls do not become tiresome in colors more individual or unusual than those in living room. There must be general harmony with furnishings. Off-white painted walls are smart just now—oyster-white or slightly grayed white. This ties as background with white leather or very light fabric upholstery on chairs, a little dark mahogany or walnut imparting the necessary weight for color scheme. Such walls show off rich hues in curtains. Among other fashionable wall colors are purplish blue, bright yellow, greenish yellow or chartreuse, bluish gray, light chocolate brown. Blues go well with mahogany or walnut furniture.—National Painters Magazine.

TO REMODEL CLUB ROOMS

The rooms of the Transportation Club in the Palace Hotel, San Francisco, will undergo extensive remodeling from plans by Albert Schroepfer, 244 Kearny Street, San Francisco.

STOCKTON RESIDENCE

Peter Sala, architect of Stockton, has prepared plans for an $18,000 house in Stockton for Ben E. H. Warren of that city.

IRVING J. GILL, ARCHITECT

Irving J. Gill, one of the older outstanding architects of California, died at Carlsbad October 7, after an illness of three months. His home was at Palos Verdes but he spent the last months of his life at Carlsbad, where the climate seemed to benefit him.

Mr. Gill was born in Syracuse, N. Y., and was 66 years of age.

As a young man he studied and worked for some years in the office of Louis Sullivan in Chicago. After Sullivan's work on the Columbian Exposition of 1893 was completed, Mr. Gill came to San Diego for a rest. He was so attracted by the city and its surroundings that he decided to remain and thereafter he practiced his profession in California for 42 years.

Following the Sullivan idea, Mr. Gill made further developments in the simplification of architectural design. Twenty years ago, against much opposition, he was doing the sort of design which is now so well accepted. He sacrificed everything to his ideals in this matter and while he many times rose to heights of success, as the world understands such things, his life was not an easy one. This seems to be the fate of most innovators. Fortunately, toward the end of his life, he received considerable recognition from the magazines and critics. Much of this acclaim came from Europe, especially Paris and Vienna. At the time of his death authorities from Vienna were in this country collecting material with the idea of publishing a monograph of his work.

From his San Diego office Mr. Gill did no small volume of work on the East Coast of the United States, including Bar Harbor, Me., and Newport, R. I. This was mostly fine residence work, notably the home of Frederick Law Olmsted, famous landscape architect of Brookline, Mass.

Mr. Gill's greatest achievement in point of architectural value, was done in California. In 1912 he was selected by Bertram Goodhue as his associate in designing the buildings for the San Diego Exposition. Through his influence the Olmsted Brothers were induced to accept the commission to design the grounds for this Exposition, hence much of the beauty of Balboa Park is due to Mr. Gill's efforts.

His work consisted mostly of residences, many of them large and expensive, but his chief interest was the smaller work which was to be a benefit to humanity in general. Much to his distress, many of these small houses, which were to be for workmen at a small rental, became so popular that the workmen could not afford them.

Mr. Gill was of a genial personality and much respected, even by those who disagreed with his ideas. He is survived by his widow, Mrs. Marion Gill, and a nephew, Louis J. Gill, architect, who is carrying on the work in San Diego.

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NEW MANAGER FOR R. W. HUNT

Frederick S. Cook has been appointed Pacific Coast Manager for Robert W. Hunt Company, engineers, with headquarters at San Francisco.

Mr. Cook is a graduate of Columbia University, New York City, with a degree of Engineer of Mines, 1905, and in that capacity engaged in the operations and examination of lead and zinc properties with headquarters at Joplin, Mo., until the opening of the World War in which he served as a Captain and Battalion Commander in the Engineer Corps. Since 1919 he has been Vice-President and Secretary of the McCraken-Ripley Company of Portland, Oregon.

Mr. Cook is a member of the American Institute of Mining and Metallurgical Engineers, past president of the Oregon Section, and is registered in the state of Oregon as a mining engineer. He is a member of of the Professional Engineers of Oregon and past trustee.

GAS HOUSE HEATING

Rapid strides in the application of modern gas house heating are indicated by reports of the American Gas Association for 1936. In April, for example, gas house heating on the lines of natural gas utilities increased 3.4 percent over the same month of last year. On the lines of manufactured gas utilities, the reports show 132,400 gas house heating customers for April, 1936, compared with 129,300 for March, 1936, and 117,000 for April, 1935.

PLAQUE FOR DR. MEAD

A memorial plaque, commemorating the work of the late Dr. Elwood Mead, Commissioner of the Bureau of Reclamation from 1924 until his death, January 26, 1936, was unveiled September 29 at the Lookout Point above Lake Mead, created by Boulder Dam. Besides a suitable inscription, the plaque, designed by Oskar J. W. Hansen, sculptor of other decorations at Boulder Dam, bears an excellent likeness of Dr. Mead.

BEACH HOUSE

Albert J. Evers is preparing preliminary drawings for a $15,000 beach house of twelve rooms to be built near Lake Tahoe. The house will be rustic with wood shake roof and large stone fireplace.

OROVILLE MARKET

Charles F. Dean, architect of Sacramento, has completed plans for a one story brick market building for Walter E. Higgins at Oroville, Butte County.

ORIGIN OF NAMES OF COUNTIES IN CALIFORNIA

SAN BERNARDINO COUNTY—Created April 26, 1853. Saint Bernard is the patron saint of mountain passes. The name: "Bernardino" means "bold as a bear". The Spanish gave to the snow-capped peak in southern California the name of San Bernardino in honor of the saint, and from this the county got its name.

This county, big enough to place the states of Delaware, New Hampshire, New Jersey and Rhode Island within its boundaries, is the largest in California. With thousands of fertile and well-watered acres, a vast stretch of desert with untold mineral wealth, transcontinental railroad lines, 3600 miles of roads and highways, a score of thriving cities and many small communities, San Bernardino is an empire within itself. Mountain peaks, snow-capped, towering 11,800 and 12,600 feet, look down upon orange and lemon groves and the wastelands of the Mojave Desert.

Mission padres and early Spanish settlers, who were followed by hardy pioneers and Mormons from Salt Lake City, made San Bernardino what it is today. In 1774, Father Juan Bautista de Anza, seeking an inland route from Sonora, in Old Mexico, to Monterey, led the first expedition into the county. One of his party, Father Francisco Hermenogildo Garces, returned in 1776 and was the first white man to traverse the Mojave Desert. Padre Dumetz of the San Gabriel Mission founded a capilla at the Guachama Rancho on May 20, 1810, which was known as Old San Bernardino. Stock raising and farming were introduced to the Indians by Mission Fathers in 1819. Following a disastrous attempt to lead a wagon train into Southern California from Utah in 1849, Captain Jefferson Hunt returned to Salt Lake City in 1850 and persuaded Brigham Young to send 500 Mormans with livestock and household equipment into San Bernardino. The first of these settlers arrived in June, 1851, and the present site of the city of San Bernardino was selected for settlement. A recall of Mormons in 1857 forced many to return to Salt Lake City.

San Bernardino has approximately 15,000 dairy cows, 23,000 beef cattle, more than a million chickens and about 100,000 swine. The production of the Navel orange is the county's largest industry valued into the millions. About 47,000 acres are devoted to citrus fruits, one-fourth of the acreage so devoted in the country. A great variety of fruits, grain, hay and truck crops, bring to the farmers more than $36,000,000 annually. The world's largest vineyard, 5000 acres, is near the town of Guasti.

The county ranks first in the point of variety of minerals and the Randsburg mines make it first in silver production. San Bernardino's scenic attractions

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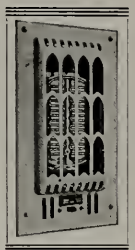

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ranging from desert to mountain peak are many and varied and Lake Arrowhead, 22 miles from San Bernardino, is world-famous. Population: 133,900. Area: 20,175 square miles.

FORM PARTNERSHIP

L. G. Scherer, architect, and K. D. Denney, announce their association with offices in the Hollywood Chamber of Commerce Building, 6520 Sunset Boulevard, Hollywood.

ENGINEER ON RETIRED LIST

Ralph Modjeski, consulting engineer on the San Francisco-Oakland Bay Bridge, has retired from active practice and will reside at Santa Barbara where he has purchased a home.

SOUTHERN CALIFORNIA CHAPTER

The regular monthly meeting of Southern California Chapter, The American Institute of Architects, was held at the Clark Hotel in Los Angeles, November 10. Report of the nominating committee was submitted and the symposia on architecture and its personalities was continued. Eric Barnett, president of the Producers' Council Club of Southern California, was the guest speaker.

MORE PROVISIONAL CERTIFICATES

The State Board of Architectural Examiners, Southern District, October 27 granted provisional certificates to practice architecture in California to the following: F. Lea MacPike, 323 N. Beverly Drive, Beverly Hills; Horace Guthrie Thursby, 1003 S. Beacon Street, Los Angeles; Frederick Earl Emmons, Jr., 803 S. Highland Avenue, Los Angeles.

NOVEMBER CHAPTER MEETING

The monthly meeting of Northern California Chapter, The American Institute of Architects, was held at the St. Germain Restaurant, San Francisco, at 6:30 P.M., October 27, Will G. Corlett presiding.

Ernest Born, who designs the Architectural Record covers, was present as a guest.

It being the annual meeting as prescribed by the by-laws, transactions therein were confined, in general, to business, reports and election of officers.

The president addressed the meeting with an outline of the aims and purposes of the Institute and in a review of the activities within the Chapter, brought to the attention of its members what had been done the past year to uphold these standards. Officers and members were thanked for their co-operation.

The secretary-treasurer's annual report showed the finances and membership of the Chapter to be in a very sound condition. The report was accepted, subject to the customary audit.

Other reports from committees were presented and accepted with thanks, as follows:

Membership, public information, education, library, entertainment, advisory committee to the Art Commis-

sion, Federation of Arts, Roadside Council and Housing Association.

Under the heading of unfinished business, the board of directors presented a recommendation that the Chapter contribute to the Architects Home Service Bureau, the sum of $25 per month for a period of one year, subject to revocation by the board. A motion to this effect by Mr. Allen, seconded by Mr. Evers, was carried.

A motion by Mr. Bakewell, seconded by Mr. Allen, that the lump sum of $300 be transferred from the general account to the educational fund was unanimously carried.

There being no other list of nominations for officers for the year 1936-37, a motion was passed instructing the secretary to cast an unanimous ballot for the election of the candidates proposed at the September meeting by the nominating committee. These follow: Will G. Corlett, President; Warren C. Perry, Vice-President; James H. Mitchell, Secretary-Treasurer; Ernest Weihe and Timothy L. Pflueger, Directors for three year terms.

Mr. Evers moved and it was carried that the historic landmarks committee make it a special activity to seek the preservation of old Fort Point and offer its co-operation to the Mayor's committee in this matter.

It was instructed also that the effort be continued seeking preservation of the old San Francisco Mint Building.—J. H.M.

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"REAL ESTATE FOLLIES"

Real Estate Follies" is the name given to one of the sections of the exhibit of housing models, prepared by the WPA under the direction of the New York City Housing Authority, which opened at the New York Museum of Science and Industry in the RCA Building, Rockefeller Center, October 21. The models, on view for their first public showing, will be at the Museum through December 31.

Models in this particular group show in exact proportion actual city blocks of old and new law tenements, new multiple dwellings, New York's finest private dwellings and a typical block of one and two family houses. Each one illustrates the way in which New York City's land has been covered without regard to proper light and ventilation. Besides these models of actual blocks there are additional models showing the terrific coverage both in area and type which is still permitted under our present laws.

The exhibit includes 61 models built to a uniform scale of 1 to 364, or 1/32 of an inch to one foot. There are also 17 large photographs showing past and present conditions and of housing projects now under way. Other models show all of the so-called model housing projects from the early model tenements to Hillside Homes, Boulevard Gardens and First Houses which have been built in New York City.

There are ten models of housing projects now under construction of the Federal Emergency Administration of the Public Works in other cities and a number of models of the Williamsburg and Harlem River projects now under construction in New York by the Public Works Administration in co-operation with the New York City Housing Authority.

Finally, there is a group of models showing the projects proposed by the New York City Housing Authority for the Red Hook section in Brooklyn and the Halletts Cove and Queensbridge areas in the Borough of Queens.

A special model shows the relative density of population in various sections throughout New York City by means of small rods whose height

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above the map is in direct proportion to the population per acre of the areas where they are located. Taken as a whole, the models present a picture of multi-family housing in New York City as it has been, as it is and as it should be if it is to conform to modern standards of light, ventilation and population density.

FEDERAL WORK FOR ARCHITECTS

Architects and government officials are developing a plan to open the field of public architecture to private practitioners, Stephen F. Voorhees of New York, president of the American Institute of Architects, announced in an address before a Regional Conference of the Institute's Gulf States Division at Dallas, Texas, last month.

Adoption of the scheme will, it is expected, end the long controversy between the profession of architecture and the Treasury Department which has provoked repeated charges of "bureaucratic domination of the arts."

The invasion of the sphere of private practice by bureau or official architecture, State and Federal, has created a serious professional problem which also affects national standards of design, declared Mr. Voorhees, deploring the refusal of the New York State authorities to permit creative artists outside the Department of Public Works to participate in the design of the proposed War Memorial Building in Albany.

"The active support of architects in local practice is necessary not only to solve the national problem but to an even greater extent the local problem," said Mr. Voorhees, who is chairman of the board of design of the 1939 New York World's Fair.

"The private practitioner has felt very definitely the operations of the Office of the Supervising Architect in Washington. This office engages in the design of public buildings rather than commission architects in private practice to perform this function.

"The Institute hopes to evolve a plan, on which its Committee on Public Works and representatives of the Treasury Department are now working, that will provide for the employ-

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ment of architects in private practice on government buildings.

"The expanding practice of governmental architectural bureaus is not confined to Federal projects. State architectural bureaus are also invading the field of the architect. For example, in the state of New York, a War Memorial Building for which subscriptions are to be obtained from the public, has been given to the State Architect by the Building Commission.

"All of the Chapters of the Institute in the New York region have vigorously protested this action and are actively pressing for a change in this procedure looking to an architectural competition among architects in private practice. The problem is a complex one but it can be solved if representatives of government and of the architectural profession will recognize that there is a field for both the architectural bureau and the private practitioner and define those fields and the relationships which result.

"Another very definite local problem is the rendering of architectural services to the owners of moderate priced houses. The Institute Committee on Housing has this matter actively in hand, and several groups of architects in different parts of the country are now trying to meet the situation.

"The Institute, recognizing the definite local character of this problem, has taken no specific action as to any particular plan but has urged all the groups to work out a principle best fitting the needs of each community. After a period of experimentation, it is hoped that certain principles may be evolved which will have national application. Experiments have been made in both large and small communities. The results thus far are most encouraging."

STORE MODERNIZING

An analysis of the physical condition and appearance of approximately 8,000 small and medium-sized stores and service establishments in 23 selected cities of the United States has revealed that over half are in need of modernization in varying degrees, according to "Store Modernization

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Needs," a study just made available by the Bureau of Foreign and Domestic Commerce, Department of Commerce.

While most of the stores included in the analysis are located in the western part of the United States, the cities in which the information was collected were selected on a sampling basis and are, therefore, believed to reflect the approximate general conditions prevailing in other regions of the country, it was stated.

The analysis revealed a generally unsatisfactory appearance of store fronts. The most frequent recommendations call for the painting and refinishing of store exteriors and the installing of new or the replacing of existing outside signs.

Painting or repairing of walls and ceilings and the improvement of store lighting are recorded as the greatest interior needs.

"The object of the study is to present, on the basis of a limited sample, an analysis of the actual physical condition and appearance of small and medium-sized stores and service establishments with appropriate recommendations for improvement," Alexander V. Dye, Director, Bureau of Foreign and Domestic Commerce, said in commenting upon the analysis.

"Although retailers in greater numbers than ever are recognizing that modernization of their establishments is a good investment, the analysis of store needs which has just been completed clearly reveals that existing opportunities for the modernization of retail stores in the United States are great," he said.

"Modernization of the many retail establishments now in need of reconditioning not only would act as a stimulant to general industry and employment but would result in increased sales and profits through the attraction of additional customers to the establishments so improved.

"Modernization is a business proposition which every retailer must consider carefully if he is to retain a strong competitive position in his community."

Apparel stores, the analysis reveals, are in the best condition of all of the groups of retail establishments includ-

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ed in the study, both as to exterior and interior appearances, although it is recorded that approximately one-third of such stores offer an opportunity for improvement.

Among all of the establishments observed for the purpose of the analysis, dry cleaning, pressing, and shoe-repair shops are rated lowest on the impressions given by both exteriors and interiors, nearly three-fourths being rated as "fair" or "poor" in these respects.

Observations included in the analysis indicate the opportunities for modernization of retail grocery establishments are great.

Details for sixteen business classifications are recorded in the study and some of the tables are arranged to show differences recorded for different locations within a city, and in accordance with traffic density. The kinds of business classifications are grocery stores; other food stores; general merchandise, farmer's supply and country general stores; apparel stores, automotive groups; furniture and household stores; lumber, building and hardware group, restaurants, eating and drinking places; cigar stores; drug stores; jewelry stores; stationery, book and office supplies stores; miscellaneous retail and second hand stores; barber and beauty shops; dry cleaning, pressing, and shoe repair shops; and mechanical repair and service shops.

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Titled "Store Modernization Needs" and identified as Market Research Series No. 8, the study is the result of a co-operative effort of the Federal Housing Administration and the Bureau of Foreign and Domestic Commerce.

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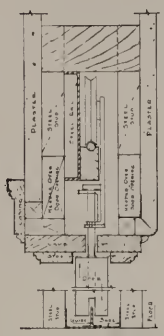

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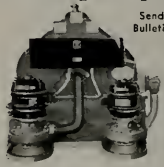

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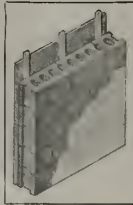
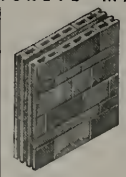


CONCRETE MASONRY
Laid with ordinary bond. Insulation furred out from interior face. Exterior given coating of portland cement paint or finished with portland cement stucco.



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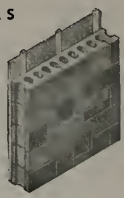

RANDOM ASHLAR
Laid in a wide variety of patterns. Insulation may be applied direct or furred out from inside face of wall. May be coated with waterproof portland cement paint.

THE ARCHITECT AND ENGINEER

DECEMBER 1936

Residence of Robert W. Walker, Grizzly Peak Blvd., Berkeley. Mark Daniels, A. I. A., Architect

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{Signed} Edwin Johnson, Cement Contractor

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{Signed} J. M. Walker, Bu

•

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Douglas D. Stone, Architect

Frontispiece

MURAL IN PERSIAN ROOM, HOTEL SIR FRANCIS DRAKE
(seven colors)
Executed by A. B. Heinsbergen

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Notes and Comments

HERE is an extract from an editorial in the Federal Architect that smacks of good common sense. Again it has to do with the modern approach:

"Was aviation accomplished by disregarding the science and research of the past? Was radio transmission achieved by ignoring all previous electrical findings? Was the theory of Relativity established by refuting the multiplication table?

"We are human beings and as such we, collectively, make no step without consulting the past. It is the way we are built. We do not bet on horse races without reading up on past performances. We (or those of us still having shirts) do not invest without data. We do not design foundations without checking adjacent buildings. We do not design ships except they be closely patterned upon other ships which have withstood the elements. We collectively, make no progress except as the development of previous progress.

"Architecture can no more flower and prosper by disregarding all its own progress previous to a certain date than any other art or science can prosper by such a method of procedure. Now that the so-called Modern has licked itself by trying it, it is time for both the youth and the experience of the profession to come forward with the idea of Salvage.

"Let us pick the good points of Modern. Let's take the results of the enthusiasm and inspiration and youth and strength that went into setting up its scheme of design. Let us take the idea of simplicity. Let us take as far as good taste will permit, the idea of Functionalism which they talked but did not use. Let us take their idea of beautiful, smooth surfaces. Let us take their appreciation of materials, their flair for color.

"All that is a distinct contribution. But let us not hamstring ourselves by taking the big oath never to make use of the accomplishment of the past. Don't let's swear to turn our backs on the heritage two thousand years of architecture have handed down to us. With a pass to the covered seats, don't let's sit out in the bleachers.

"You can't be an artist and be stubborn. When you see a precedent that is good, you have to either beat it or take it. What the architects of today need is to stop being stubborn, to be broad-minded enough to use the architectural inspiration and ideas and good taste of the past, except in cases where their own is better."

* * *

ANENT the "modern trend" in architecture, William F. Lamb of the firm of Shreve, Lamb and Harmon of New York feels that there is quite as much of the false being done today as formerly. Clear and straightforward thinking toward the answer of any given problem is the approach to the design of a building of today just as it has been to the great buildings of the past. To quote Mr. Lamb, "Spare me the buildings that lay their claim to modernism because they are different for the sake of being so, and not through any reasoned and logical thought of their designers."

Henry R. Shepley of Boston considers that we have in America today no modern architecture that shows any particular trend. In his own words: "There has been a steady development in the traditional styles influenced by the modern approach and the fashion of the times which shows real vigor, imagination and originality and which is the only real modern architecture of today."

Howard L. Cheney of Chicago believes in "Countemporary Architecture" and his opinion, as published in the Federal Architect, follows:

"Contemporary expression of function, form and color in architecture, today, evidences the fact that architecture is not stagnant nor confirmed to the traditions of the past. It is an iquiring progressive, forward step which is more than a passing architectural fancy. Its development is a natural outgrowth of man's universal conquest of nature and science. The architect of today, unlike his predecessor, finds opportunity at hand and a challenge, because of such an abundance of new materials and the tremendous advance in scientific methods of construction.

"Fadish, modernistic tendencies in the name of architecture are not to be condoned. But what we must classify as real contemporary architecture is a rational expression, an awakening, if you please, in the use of new modes and forms for solving our architectural problems. As geographical boundaries are broken down and distances lessened, this modernism in architecture becomes not only an American expression, but a universal language."

* * *

EXTRACT from a letter describing a certain parcel of land: "The site is surrounded on the noreth, east and west by residents, none of which are very beautiful, of those on the north only one being worthy of note." A blonde, no doubt.

* * *

IN a statement renewing his protest against "bureaucratic domination of the arts", Hobart B. Upjohn, president of the New York Chapter of the American Institute of Architects, appeals to the professions of engineering, medicine, and the law, as well as the entire building industry, "to support the architects in their stand against socialization of the professions". Mr. Upjohn expresses the belief that maintenance of a large State Architect's Office is a "tremendous extravagance" and that it leads to sterility in architecture. He deplores the tendency to make "the people the servant of the government".

"The design of all important public structures should be entrusted to architects in private practice, selected for merit on their records of achievement or by competition," Mr. Upjohn declares. "Design by bureaus sooner or later results in aesthetic sterility.

"It is part of the American credo that governmental agencies should be limited in competition with individual enterprise to cases of absolute necessity."

Mr. Upjohn charges that Colonel Frederick Stuart Greene, State Superintendent of Public Works, has "discredited the entire architectural profession", by a public declaration that "the Bureau of Architecture of the State of New York can do a better job than private architects."

Mr. Upjohn points out that there have grown up in Federal, State, and local units of government great official architectural bureaus.

"Directed by men of integrity, but often of limited outlook, and manned by armies of Civil Service or semi-political assistants, these bureaus openly compete with private individual enterprise in the field of designing public buildings and monuments," he adds. "This is a field in which every practicing architect is proud to give his best efforts. It is a field in which the public, which pays for these structures, has the right to demand the services of the best talents in the professsion."

* * *

MANY letters of appreciation have been received by the editor for presenting in last month's issue, additional designs submitted in the recent Oregon State Capitol Competiiton.

W. C. F. Gillam, architect of Burlingame, thinks it would be a fine gesture for some one to publish in book form all available designs in this nationwide competition, together with the program, instructions to competitors, architects' criticisms and a complete list of the entrants.

Another letter from Portland reads as follows:

Architect and Engineer,
San Francisco, California:

I just received my copies of your November number today and wish to express my aporeciation of the splendid manner in which you handled the Oregon Competition article. The cuts were beautiful and the article could not have been better arranged. Yours very truly,
ROI L. MORIN.

* * *

THE building revival is much bigger than we had dreamed. A local hotel tablecloth yesterday carried a penciled plan of a sixteen-room house. —

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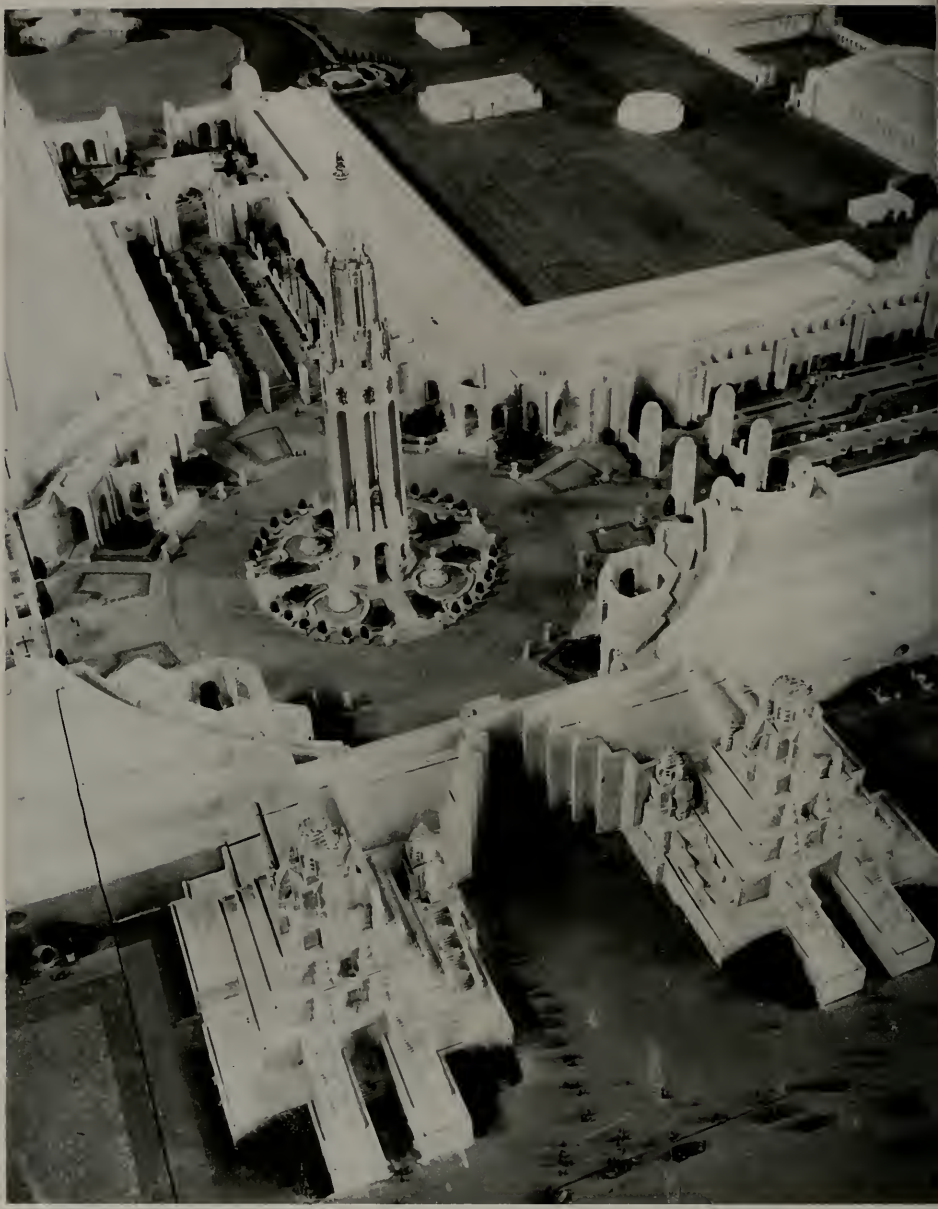


PLASTER MODEL OF MAIN GATEWAY, GOLDEN GATE INTERNATIONAL EXPOSITION, SAN FRANCISCO. THE TOWER IS 300 FEET HIGH

ONE OF TEN MURALS BY A. B. HEINSBERGEN IN THE PERSIAN ROOM,
HOTEL SIR FRANCIS DRAKE, SAN FRANCISCO
DOUGLAS DACRE STONE, ARCHITECT

PERSIAN ROOM, HOTEL SIR FRANCIS DRAKE

ARCHITECTURAL TREATMENT WITHOUT PRECEDENT

By Douglas Dacre Stone

DANCE FLOOR IN PERSIAN ROOM, HOTEL SIR FRANCIS DRAKE, SAN FRANCISCO
Douglas Dacre Stone, Architect

THE architectural conception of the newly completed Persian Room in the Hotel Sir Francis Drake, San Francisco, is without basic prototype or precedent, and completely divorced of any previously conceived theme.

The very irregular area in which this room was built, with the numerous different floor and ceiling elevations, and the profusions of unsymmetrically spotted columns, demanded a scheme of direct accusations of the space available. Because of the very low ceiling every inch of height had to be used and a design that would merely clothe the physical conditions was finally decided upon with light as the basic theme of architectural interest.

There are approximately 6000 lights in the four primary colors behind metal and plaster coves, controlled on a large dimmer bank, which can be manually or mechanically operated from a central control room, giving any effect that may be desired thru the whole gamut of the rainbow.

The lights on the tables, which are also electric and four colored, can be dimmed independently or in conjunction with the rest of

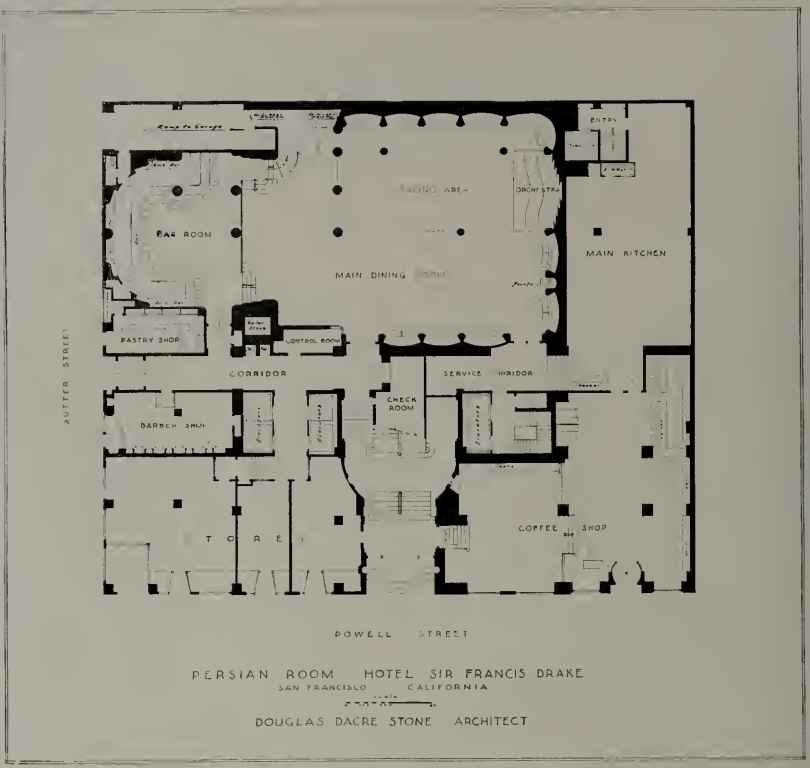
PERSIAN ROOM, HOTEL SIR FRANCIS DRAKE, SAN FRANCISCO
Douglas Dacre Stone, Architect

Indirect lighting reflectors, metal lighting troughs, concealed projectors for lighting murals, and table lamps, designed and manufactured by the Wagner-Woodruff Company.

THE BAR, PERSIAN ROOM, HOTEL SIR FRANCIS DRAKE, SAN FRANCISCO
Douglas Dacre Stone, Architect

MURAL, "THE DREAM", PERSIAN ROOM, HOTEL SIR FRANCIS DRAKE

One of eight beautiful paintings by Heinsbergen



PLAN, PERSIAN ROOM, HOTEL SIR FRANCIS DRAKE, SAN FRANCISCO
DOUGLAS DACRE STONE, ARCHITECT

the room. The tables were designed with a hollow extruded bronze shaft having a large circular metal base allowing sufficient flexibility of movement over the fixed floor plugs so that a combination of tables for larger parties may be had without interfering with the wiring to the table lights.

An illuminated etched glass and stainless steel fountain set in a stainless steel niche and lighted by 150 different colored globes which have the same color flexibility as the illuminations for the rest of the room, adds a touch of activity to the south wall.

The theme of the wall treatment around the dining area is a continuity of muraled alcoves, depicting a cynical Persian Prince for whom women held no charms, until dreaming one summer's day he beholds a fantasy of feminine loveliness that so entrances him that he sets out in search for its reality; and whom he finally finds, courts, weds and lives happily forever after.

The murals, which were done by Tony Heinsbergen, are a clever combination of profile cutting into the masonite background and a low bas-relief treatment. The colorings are striking and lend a note of modern orientalism in character with the architectural theme of

DETAIL, PERSIAN ROOM, HOTEL SIR FRANCIS DRAKE, SAN FRANCISCO

DOUGLAS DACRE STONE, ARCHITECT

The spun glass electric fountain, with its continuously changing colors, designed and manufactured by the Wagner-Woodruq Company, Los Angeles.

the room, and under the changing lights take on different and interesting color tones.

Because of the diversity of obstacles that had to be overcome, the ventilation and air-conditioning layout was one that required an immense amount of care and study.

The terrific heat given off by the thousands of lights in the low ceiling would have been unbearable had it been allowed to enter the room at all, consequently a system was evolved to suck the heat out at its source of supply, namely inside the coves themselves.

Fresh, air-conditioned air is brought in at the top of each booth at the dining room, and at the intersection of the walls and the ceiling at the remaining areas. This air comes in at a very high rate of speed but is deflected by curved louvres up to the ceiling to avoid drafts and unpleasant air currents on patrons' heads and backs. The tightness of the plan and the scarcity of furred areas made the layout a very complicated and difficult one, but the result in its entirety is very satisfactory.

The woods selected were Makore', East Brazilian rosewood, and Macassar ebony. The walls of the bar and rendezvous are covered from floor to ceiling with unpaneled, simple Makore' designed to follow the flow of the room and finished to glow in a satin like variety under the changing lights.

The bar is faced with Brazilian rosewood in a series of setbacks with a stainless steel edging at each set back and a stainless steel base and bronze footrail. The bar top is of Macassar ebony matched to radiate at all curves and turns. The back wall of the bar is lined with flesh colored mirrors that extend the entire distance from the countershelf to the domed ceiling. A low Makore' canopy in the vertical plane as the bar front follows the contour of the entire bar, with orchid colored lights shining thru. The ceiling of the back bar is barreled and indirectly lighted in a gold tone.

The entire ceiling area is covered with Nashkote, painted and then perforated, which makes a highly sound absorbent surface and one which has proven very satisfactory in the low ceiling areas. The only hard plaster is back of the orchestra and acts as a resounding board to throw out the music.

All exposed structural columns were entirely encased in a circular, stainless steel sheaf with a recessed base and cap, finished in a dull reflecting surface in order to blend into the lighting scheme as much as possible.

The entire construction was done by Lindgren & Swinerton, under the supervision of Richard Walberg, vice-president, whose constant cooperation with the architect made it possible to finish this room to everyone's satisfaction.

Mrs. Margarete Curtice, interior decorator, collaborated during the entire period of design and construction in selection of furniture, colors, and architectural theme. Her very able assistance and artistic ability were an immeasurable help to the result achieved. She worked with Mr. Heinsbergen in his studio in Los Angeles in the design of the murals.

Lou B. Mulloy, chief designer in the writer's office, was directly responsible for the plans of the room, most of which were drawn by him personally or under his supervision.

The Persian Room, with its diversity of problems, presented a highly interesting architectural project and in its solution all those concerned feel pleased. The reaction of San Francisco has been most gratifying, and has warranted the time and energy spent in the designing and execution of this new room.

THE PROPAGATION OF COUNTRY HOUSES

IMPROVED ARCHITECTURE IN FARMING COMMUNITIES

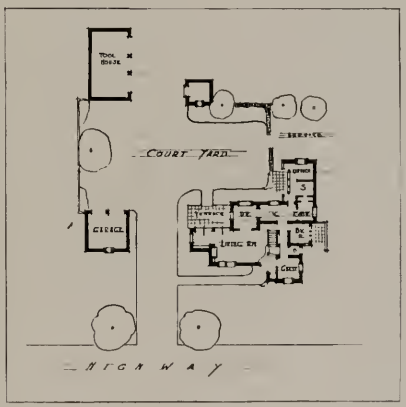
by Frederick Jones

RESIDENCE OF MR. AND MRS. R. E. MERWIN, CLARKSBURG, CALIFORNIA
W. R. Yelland, Architect

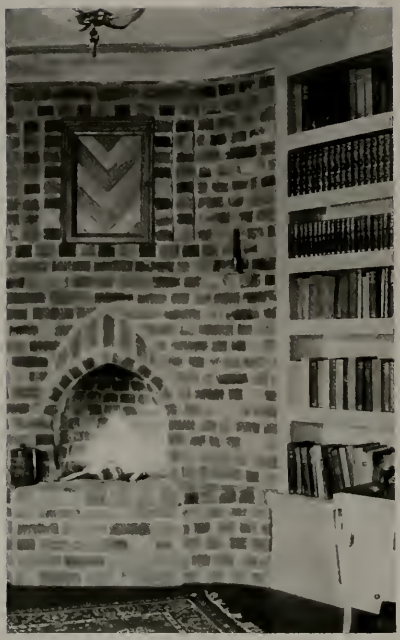
IN prosperous farming communities building is carried on in three ways. (First) There is the building of a new house, preferred by some as a manifestation of a new way of life. (Second) House repair and enlargement. (Third) Progressive building, where the house grows with the growth of family and resources.

The third way is the way of the old world. Growth through decades and centuries gives a house peculiar charm; here, where we do things more rapidly, a house yet acquires stability and charm as it is added to at intervals of a few years.

Near Clarksburg on the Sacramento River, California, in an asparagus and beet-growing



PLAN, RESIDENCE OF MR. AND MRS. R. E. MERWIN, CLARKSBURG, CALIFORNIA
W. R. Yelland, Architect



LIBRARY FIRE PLACE,
RANCH HOUSE OF
MR. AND MRS. GUS OLSON,
CLARKSBURG, YOLO COUNTY,
CALIFORNIA

W. R. Yelland, Architect

SWIMMING POOL AND
OUTDOOR FIRE PLACE,
RANCH HOUSE OF
MR. AND MRS. GUS OLSON,
CLARKSBURG, YOLO COUNTY,
CALIFORNIA

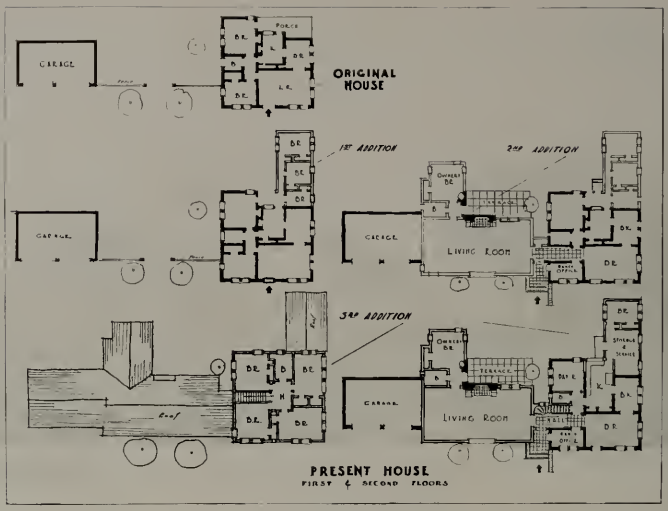
W. R. Yelland, Architect

RESIDENCE OF MR. AND MRS. GEORGE WILSON, CLARKSBURG, CALIFORNIA

W. R. Yelland, Architect

RESIDENCE OF MR. AND MRS. JOHN F. HERINGER, CLARKSBURG, CALIFORNIA

W. R. Yelland, Architect



PLAN, SHOWING ORIGINAL HOUSE AND FOUR STAGES OF GROWTH, RANCH HOME OF MR. AND MRS. R. M. YELLAND, CLARKSBURG, CALIFORNIA

W. R. Yelland, Architect

LIVING ROOM, RANCH HOUSE OF MR. AND MRS. R. M. YELLAND, CLARKSBURG, CALIFORNIA

W. R. Yelland, Architect

RESIDENCE OF MR. AND MRS. JOE RANKIN, CLARKSBURG, CALIFORNIA

W. R. Yelland, Architect

country, the three ways of building are shown in the work of W. R. Yelland, architect of Oakland, California. An example of the new house is R. E. Merwin's; the Heringer and Olson houses have been renewed and amplified, and the R. M. Yelland home is one that has known four stages of growth.

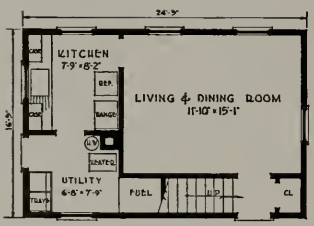
Country living requires a center for farm and domestic life. A court yard to take care of the coming and going of cars and farm implements provides such a center for the Merwin house.

The Yelland house is illustrated in its progress from a cottage to the important spot it has become in the landscape, with its ample spreading rooms, its lawns and gardens. At first there is the little house of five rooms and a bath, the garage, with its picturesque coach house topping, tied to the house by a stretch of white fence. Next are added three bedrooms, an extension of the north end of the house. As times grow better and the family increases, a living room of stately proportions is built, filling in the space between the garage and the old house. Behind it is a paved court with flower beds, and opening on the court a new apartment for the owners, a hall, bedroom and bath.

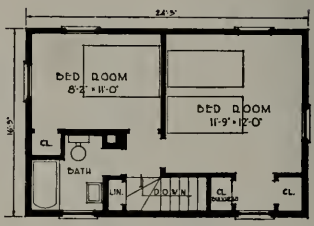
Two years after, to make the house complete in comfort, more bedrooms are added in a second story over the original house with a staircase leading in a pleasant curve from the entrance hall, past two embrasured windows. There are more baths and servants' quarters and increased space in the service part of the house.

Cellar Entrance

THIS HOUSE DESIGNED FOR THE FHA OFFERS A VARIED ARRANGEMENT OF LIVING AND SLEEPING QUARTERS. THE ADDITION OF A GARAGE CONNECTED TO THE HOUSE AS INDICATED ADDS BREADTH TO THE DESIGN AND TENDS TO DIMINISH THE STILTED QUALITY SO DIFFICULT TO AVOID IN THE SMALL TWO-STORY HOUSE.



FIRST FLOOR



SECOND FLOOR

REAL ESTATE LOANS AND NATIONAL BANKS

BORROWER NEEDS CHARACTER, CAPACITY AND CAPITAL

By Russell G. Smith, Bank of America

NATIONAL bankers, as a group, neither appreciate the possibilities of increased real estate lending nor realize their responsibility to provide their communities with mortgage money.

We need only glance at the record to realize that this is true. In 1915, a little more than a year after the passage of the Federal Reserve Act, with its Section 24 permitting National banks to make loans secured by real estate, the total of mortgage loans held by National banks amounted to $150,000,000 or 11.7% of their time deposit total of $1,285,000,000. Today, with the time deposit total of National banks hovering around $7,500,000,000, real estate loans amount to but $1,340,000,000, or 17.8% of the time deposit total. In other words, while the time deposits of National banks have increased by more than $6,000,000,000 during the past 21 years, National bankers have, in the same period, increased their real estate loans but slightly over $1,000,000,000. Under the law, National banks could have $4,500,000,000 invested in real estate mortgages on their present time deposit basis; instead the total of real estate loans is less than $1,500,000,000.

The time deposits in National banks are of substantially the same character as the time deposits in the 10,000 State banks of the country, yet these State banks with $16,000,000,000 in time deposits, have approximately $7,500,000,000 in mortgage loans. This figure amounts to 46.8% of the time deposits of State banks and is nearly three times the proportion shown for the National banks. There exists no valid reason for this great difference in the employment of identical funds and it is particularly illogical at a time when National banks are experiencing difficulty in keeping their mounting deposits gainfully occupied. As a matter of practical benefit to themselves and to the communities they serve, National banks should place a much larger percentage of their time deposits in mortgage loans.

Gradual liberalization of the legal restrictions on real estate loans by National banks has been a process since the passage of the Federal Reserve Act in 1913. Many National bankers, however, have been loath to avail themselves of the privilege of increased real estate lending. This has been due to a feeling that real estate loans, being non-commercial capital assets, had no place in a commercial banking system. While this attitude was proper in 1913, when our National banks were truly commercial banks with only a small proportion of time deposits, it is slightly out of place in 1936 when time deposits make up 30% of the deposit composition of our National banking system. Yet it is this commercial banking tradition which has operated so effectively to prejudice many National bankers against real

estate loans. Although the time has long since passed when our National banks could be termed a commercial banking system, a great many National bankers still view real estate loans from the standpoint of the strictly commercial banker, regardless of the fact that their time deposits increase apace and their commercial loans dwindle month by month.

Although this attitude is perfectly proper for banks whose deposit composition is almost entirely commercial, it is out of character in banking institutions with both commercial and savings deposits, as is the case with the great majority of National banks. No one will quarrel with the theory that banks having strictly commercial deposits should seek loans only in the commercial field, but it is equally clear that banks which are partly savings require longer term loans of a character which will provide a return sufficient to permit the payment of interest on their savings deposits.

Banks Should Encourage Realty Loans

If National banks are to continue to share in the savings of the people they must be prepared to share in the real estate financing in which these savings may properly be employed. If we accept the savings of the American people we owe it to them to put those funds to work in the proper channels of constructive activity. Not only is this socially just but it is economically necessary. It is economically necessary for two important reasons. First, because savings represent capital accumulation and it is out of capital accumulation that the mortgage money of the country should come. Second, because banks must have the higher earning power of these longer term investments if they are to pay a reasonable rate of interest on savings deposits.

Unless the National banks of the country pay a fair return for the use of savings funds they must be prepared to see their savings deposits gradually gravitate to building and loan associations and to strictly savings banks, thus leaving National banks with only commercial banking business. While some may argue that such a transition in banking would be a good thing, it must be remembered that the majority of National banks are in small cities and communities and serve the people of those communities in every banking capacity. Banks chartered solely for savings or solely for commercial business could not exist in small cities and towns. Consequently, some communities would be deprived of banks. Furthermore to deny savings facilities to the smaller banks will force people to deposit with and borrow from absentee institutions and thus deprive local communities of the supporting influence that comes from the employment of local funds in local building and business.

Increased Demand for Home Loans

There is a constant demand for loans for the purchase or construction of homes and there is every indication that this demand will assume steadily increasing proportions during the next several years. The studies of the Federal Housing Administration have shown that there is a need for much additional housing throughout the country and there is no question but that the Federal Government will continue to encourage residential building in every way possible. This means a well maintained demand for loans for the purchase or construction of homes in nearly every community in the country. This demand is and will continue to be local and should be supplied by local funds. Not only is this desirable for the welfare of the communities themselves but it is equally necessary for the best interests of the National banks serving those communities. By far the greater proportion of these institutions have a deposit composition made up partly of savings deposits. They cannot continue to operate on a profitable basis if they are to depend on commercial loans. Due to economic factors with which we are all familiar, the volume of

strictly commercial loans has been on the down grade for many years and these loans are not likely to be available in any great volume in the near future. In fact, the dearth of demand for commercial credit has already resulted in many banks taking on the aspects of investment trusts in an effort to keep their deposits gainfully occupied. That the return on this class of investments, plus that obtainable from the small volume of commercial loans available, is not sufficient to permit the payment of a reasonable rate of interest on any amount of savings deposits is clearly evident. If National banks wish to place their operations on a truly profitable basis; retain their savings deposits; and serve their communities in the proper manner, they must be prepared to place a much larger proportion of their savings deposits in mortgage loans.

Mortgage loans, properly made and serviced, are a highly satisfactory investment medium for a part of savings deposits. Such loans provide a consistently high rate of return with but a small loss ratio. The principal admitted weakness of real estate loans in the past has been lack of liquidity, but this has been corrected by proper provisions for amortization of principal, by the introduction of the insured mortgage loan, and by changes in the Federal Reserve Act. Other asserted weaknesses of real estate loans were due primarily to faulty methods of financing, such as unsound appraisals, lending on unrealized appreciation, failing to give proper consideration to the character and financial condition of the borrower, and to other ill-advised practices. Most of the ills commonly charged to real estate loans were in reality due to lack of proper technique in mortgage lending. If National bankers will but mold the accumulated experience of many years of mortgage lending by institutions specializing in this type of loan into a scientific real estate loan policy to fit their individual needs, it will be possible for them to employ a much larger proportion of their savings deposits in mortgage loans, with safety and with profit.

The desirability of such a policy is at once evident when we consider the problem which now confronts the National banks of the country. During the past three years total deposits of National banks have increased nearly $9,500,000,000. In the same period, loans have decreased $358,000,000. This decrease in loans, coupled with the tremendous increase in deposits, has placed at the disposal of National bankers a total of more than $9,850,000,000, most of which, due to lack of demand for commercial credit, has gone into the investment account and into excess reserves. With these excess reserves earning nothing and with the yield on high grade bonds at the lowest point in thirty years, earnings have suffered severely. The result has been that many National banks, in an effort to improve fading revenues, have cut their interest rates on time deposits far below the already low maximum of 2½% now permissible and, in addition, have limited the amount which they will accept from any one savings depositor. Such a policy represents retrogression and is definitely detrimental to the best interests of the banks adhering to it. National banks should seek to develop the savings business of their communities and should employ a larger proportion of such deposits in real estate loans. This would improve earnings, permit the payment of a reasonable rate of interest, and result in greatly increased service to the community.

Only by completely serving the deposit and credit needs of their communities can National banks justify their existence in those communities. If National banks are not prepared to do this, they may with confidence look forward to a competitor institution which will. Both enlightened self-interest and a proper sense of responsibility to their communities should impel National bankers active-

ly and aggressivey to develop their savings deposits and their real estate loans.

Realty Loans Yield High Returns

An expansion of real estate loans means increased earnings for National banks, due to the fact that real estate loans yield a consistently high return on the funds invested. In a period when the yield on bonds available for sound investment ranges from 3% down, real estate secured by homes may be had at rates varying from 4½% to 6%. In periods of high bond yields, interest rates on real estate loans have also been high, ranging from 6% to 8%. Over a 26-year period in one mortgage lending institution the interest rate on loans averaged close to 6%. In many localities it has never dropped below 5%, and in others 8% has been the going rate for many years. A survey of interest rates the country over indicates that at the present time mortgage money consistently returns an average of better than 5½%.

Nor is this excellent interest return dissipated by a high loss ratio. While comparative data on the relative loss experience for real estate loans, commercial loans, and stock and bond investments is not available, it is my belief, based on twenty-four years in banking, that real estate loans have, on the whole, been more satisfactory from the standpoint of losses than either commercial loans or stock and bond investments. I have found that this opinion is held quite generally among bankers who have had long experience in mortgage lending.

Thus we see that, considered from every angle, real estate loans are a desirable investment medium for National banks. It is, however, a special field of credit in which commercial lending practices do not entirely apply, and if National banks are to derive a maximum of benefit from this type of loan with a minimum of trouble, it is essential that real estate loans be made in accordance with sound principles of mortgage lending. A brief discussion of these principles, evolved over a long period of years by many institutions engaged in mortgage lending, may be of interest.

Importance of Amortization

First on the list comes the principle of amortization; requiring that every real estate loan be made with provision for liquidation by means of regular payments. The importance of amortizing real estate loans can not be over-emphasized. Had the mortgage loans made during the period prior to the depression been properly amortized, there is no doubt but that a large part of the depression foreclosures would not have been necessary. Many borrowers would have had a much larger equity in their property and would therefore have made a much more strenuous effort to retain it. In addition, a steady stream of installment payments in the pre-depression years would have brought many real estate loans down to a point more nearly in line with the decrease in real estate values, and would have made possible a less drastic foreclosure policy for many banks.

The second principle of sound real estate lending relates to the basis on which the loan is made. Experience has shown conclusively that in making real estate loans the time honored three C's,—Character, Capacity and Capital,—should be given equal weight with the value of the property in judging the desirability of the loan. It is to the borrower that we must look for payment, and his standing as a moral and credit risk should be given full consideration. The importance of correctly judging the moral risk is well known to all of us, and may be passed over without further comment. In regard to the credit risk, there are several factors which must be taken into consideration. In making long-term real estate loans the age of the borrower is an important item. To allow a man who is fifty years of age to assume a fifteen or twenty-year home loan, with his earned income as the only means of payment, is unjust

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both to the borrower and to the bank. Loans must be paid out of income, and just as it is necessary that business property pay off during its best earning years, so also it is necessary that home loans which are to be paid out of earned income be arranged to mature within the borrower's best productive years. If the borrower is unable to handle the obligation under these conditions, the bank does him a favor when it refuses the loan.

In determining the amount which may be safely loaned on a piece of real estate, two factors must be considered: first, the present and probably future value of the property; and, second, the income of the borrower, either from the property, in the case of commercial or farm real estate, or from other sources, in the case of the individual home owner. Both factors are of great importance, —value as an ultimate guaranty of safety, and income as an indication of ability to properly service the loan and amortize the principal, in addition to providing for maintenance expenses.

Next on the list of depreciation factors is the possibility of loss in value through a general depression in business or through overbuilding in the line under consideration. In connection with the first factor it is interesting to note that past experience of many institutions well versed in mortgage lending indicates that loans made in depression periods are far more satisfactory in every way than loans made in periods of relative prosperity. This is undoubtedly due to the fact that in good times there is a tendency to over-value properties and to give insufficient consideration to the other factors entering into the loan, while in the case of depression loans ultra-conservative appraisals are the order of the day and other factors, such as income and credit responsibility, receive their just due. Proper protection against depreciated values due to changes in economic conditions depends upon accurately judging the point of the business cycle at the time of appraisal and making allowances both for a possible inflated real estate price level and for the probable trend of values during the life of the loan.

Depreciation in value due to over-building may be insured against to a large extent by care in the selection of loans for new construction. In judging the desirability of loans for new building of any character, consideration must be given to the actual need for the new construction and to its probable effect on loans already held by the bank. New commercial or residential property brought into being in a community already well supplied can result only in decreasing the value or properties already under mortgage to the bank, in the case of income property, in reduced rentals to the bank's debtors. A reliable guide as to the desirability of new construction, either commercial or residential, may be had by watching carefully the trend of rentals and vacancies in properties similar to the one under consideration.

Income of Borrower Important

After a careful appraisal of the property has been made and the various other factors affecting the present and probable future value have been weighed and allowed for, consideration must also be given to the relationship of the loan to the income and net worth of the borrower. A borrower whose only assets are his income and his prospective equity in the property should not be allowed to assume an obligation which is out of line with his total responsibility. Excessive credit is injurious to the borrower, and places him at a disadvantage from the start. Inasmuch as the loan should be amortized so as to pay off within the best earning years of the borrower or of the property, it is important that both the size of the loan and the amortization program be scaled to the borrower's capacity.

The monthly payment should bear a proper relation to the income of the borrower, for if it is too large the loan is likely to become

delinquent quickly. In determining the amount of the monthly installment, consideration must be given to the borrower's ability to pay taxes on the property and keep it in good repair, in addition to meeting his payments. It is important that this be done, for undoubtedly there are many real estate loans long since foreclosed which would be in good standing today had the initial arrangements for payment been more in line with the borrower's capacity.

Third on the list of sound principles in mortgage lending is the policy of making each type of property offered as security stand by itself and pay its own way. It is no part of sound mortgage practice to make the more desirable types of security carry those less desirable. The experience of mortgage lenders over a long period of years indicates clearly that certain types of property are far more satisfactory than others as mortgage security, and this knowledge may be put to good use in future lending activities. In appraising the property, in determining the proper ratio of loan to appraised value, in fixing the interest rate and terms of payment, the performance record of the property classification in which the security belongs should be taken into consideration and proper allowances made. In this way property classifications showing a high proportion of trouble and foreclosure items can be made to pay their own way, and the bank will be in a position to offer more favorable terms on properties showing a good performance record, with resultant benefit to the bank and to the community.

While a detailed analysis of the comparative desirability of the many types of mortgage security is not feasible at this time, a few general observations in this regard may be of interest.

Experience has shown clearly that single and two-family dwellings are the most desirable types of mortgage security. Not only do they furnish a relatively small proportion of trouble and foreclosure items but the loss record on foreclosed property is likewise very satisfactory. They are small loans, usually under $5,000, and, as such, make possible a wide diversification of risk. This is important, for the experience of many mortgage lenders indicates clearly that many small loans are far better than a few large ones. From the standpoint of both safety of principal and satisfactory performance of contract, forty loans of $5,000 each are much to be preferred over one loan of $200,000. In the field of real estate financing the small homeowner is surely coming into his own, for his performance record shows that he is definitely a preferred risk.

Generally speaking, special purpose buildings and multi-family dwellings, such as apartments and hotels, do not show a favorable record and in making loans upon these types of property, both the relation of the loan to appraised value and the interest rate to be paid should reflect the greater risk inherent in the loan. By thus taking cognizance of the varying loss probabilities in each type of mortgage security, banks will be enabled to maintain their real estate loaning operations on a more profitable basis.

From the purely technical viewpoint of bank management, it is clear that real estate loans, properly made, are a desirable investment medium for national banks, with an excellent interest return, and a relatively low loss ratio.

HOUSE FOR MR. AND MRS. NELSON E. JONES, BURLINGAME, CALIFORNIA
Donnell E. Jaekle, Architect

Modern Treatment of an All-Wood House at Burlingame, California

WOOD has always been a favored building material. During the past several years there has been some tendency to substitute other products for wood in home building. However, a return to this material and all wood construction has been noticeable of late, the house here illustrated being an outstanding example.

In planning the home of Mr. and Mrs. Nelson E. Jones at Burlingame, California, it was decided to use wood practically throughout. For the outside, three types of material were utilized. In order to conform to the architect's specifications 1 x 8" "V" five ply Douglas fir panels were used over the living room and the upper story. To break the monotony,

PLANS, HOUSE FOR MR. AND MRS. NELSON E. JONES, BURLINGAME, CALIFORNIA

CONSTRUCTION OUTLINE

Foundation: Concrete with steel reinforcing bars.

Frame Construction: Douglas Fir (Oregon Pine) with Redwood sills.

Roof: Tar and Gravel.

Doors and Window Frames: All doors Flush Hardwood Doors with California Pine Cores and Face Veneers to match finish of various rooms.

Exterior Surfaces: Five-Ply Waterproof Fir Plywood.

Interior Walls: Hardwoods throughout. Birch Trim in kitchen and service portions of house. Enameled. Natural Birch doors.

Living Room: Walnut Plywood and Walnut Mouldings. Teak Plank floors. NuWood Ceilings.

Dining Room: Same as living room.

Entrance and Upper Halls: Same as living room.

Upper Hall Landing: Walnut trim and walls, Oak Block floors, NuWood seiling. Tongue and Groove Walnut on curved wall.

Upper Rear Hall: Philippine Mahogany panelling and trim. Oak floors.

Master Bedroom: Birch Plank walls. 1 x 8" T and G "V." Birch trim. Silver Tone finish. Herringbone Oak floors.

Guest Bedroom: Philippine Mahogany Plank walls. 1 x 12" T and G "V." Philippine Mahogany trim with Magnolia band to meet head casing. Block pattern Oak floors.

Son's Bedroom: Art Ply ceilings and walls. Philippine Mahogany mouldings and doors.

Stairs: Teak treads. Curly Birch risers. Walnut hand rail and Birch balusters. Finished to harmonize with halls.

Plumbing Fixtures: Standard.

Lighting Fixtures: Modern.

Screens: Rolled metal.

Venetian Brinds.

THE KITCHEN — BIRCH TRIM AND NATURAL BIRCH DOORS AND WORK TOPS. VIEW THROUGH OPEN DOOR SHOWS BREAKFAST ROOM FINISHED IN PEARLWOOD PANELING

GARDEN VIEW, HOUSE FOR MR. AND MRS. NELSON E. JONES, BURLINGAME, CALIFORNIA
Donnell E. Jaekle, Architect

LIVING ROOM, SHOWING CIRCULAR STAIR CASE AND ENTRANCE HALL, HOUSE FOR MR. AND MRS. NELSON E. JONES, BURLINGAME, CALIFORNIA

Donnell E. Jaekle, Architect

THE LIVING ROOM

Walnut plywood
and Walnut trim
Floors of Teak
Plank

THE GUEST ROOM

Walls of Philippine
Mahogany, black oak
floors

MASTER BED ROOM, HOUSE FOR MR. AND MRS. NELSON E. JONES, BURLINGAME, CALIFORNIA

Donnell E. Jaekle, Architect

manufactured Monterey redwood shakes were used over some portions and 1 x 10" "V'D" redwood rustic on the remainder. A modern trend was secured and amplified by the use of a large window built on a quarter circle and covering a portion of the circular stairway.

The living room and dining room have the same finish. Large corner windows, made with wood sash carry out the modern effect. Walnut walls radiate a pleasing warmth.

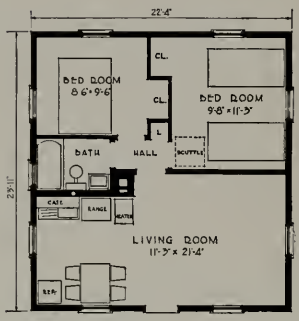
A beautiful circular staircase leads around the circular window to the upper floor. The same treatment is given the upper hall as the entrance hall.

The guest room is unusual in several respects. It has window exposures on four sides. The walls are planked in 1 x 12" Philippine mahogany applied horizontally.

It has been aptly stated that the word "home" glows with a new meaning in this modernly - designed, conveniently arranged "House of Wood". The soft toned surfaces of walls, floors and ceilings, artistically grained by nature, breathe a warmth and welcome into every nook and cranny. Each room is a sheer delight to the eye, proving once again that wood, as a construction material, aided by the artisan's brush, makes decorative effects heretofore unrealized, a physical possibility.

Cellar Entrance

THIS HOUSE, DESIGNED FOR THE FHA, ILLUSTRATES THE POSSIBILITIES OF AN ECONOMIC PLAN FOR A HOUSE REQUIRING THREE BEDROOMS. THE DRAWING ENDEAVORS TO DEMONSTRATE THAT HOUSES OF THIS SORT MAY BE ATTRACTIVELY DESIGNED WITHOUT EXCESSIVE ORNAMENTATION.



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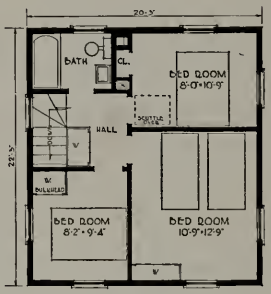
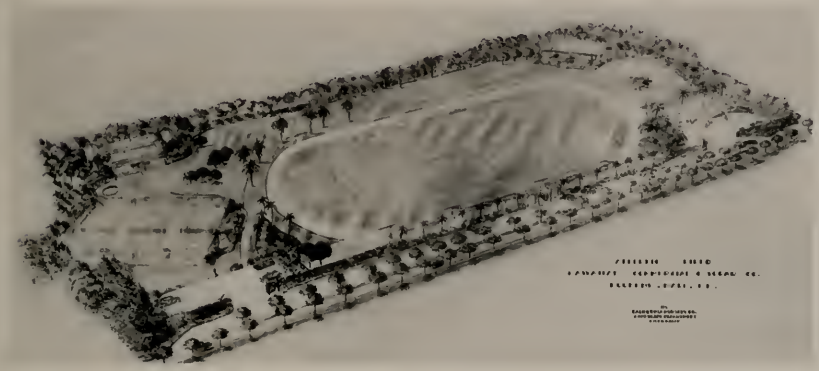


SECOND FLOOR

LANDSCAPING A RECREATION CENTER

ATHLETIC FIELD IN HAWAII VERITABLE GARDEN SPOT

by G. E. Hyland



PLAN OF ATHLETIC FIELD, PUUNENE, MAUI, T.H.

THERE is among us an occasional somewhat mote-eyed aesthete who stigmatizes athletes as bulgy legged, hairy personages who scramble and sweat to no purpose about a flat field in the center of an ugly bowl of concrete. With them we have no quarrel; it is more their loss if they cannot see the rhythmic beauty in a graceful stride or the perfected and delicate timing often necessary for an eluded tackle. But even they, we feel sure, would admit of the beauty of all things in sight could they stand on one football field in these United States and look mauka and makai—which words are Hawaiian for "toward the mountains" and " toward the sea".

They would see what is resulting from a landscape artist being turned loose upon an eleven acre athletic center in a country where flowers bloom rainbow like every month in the year.

Beauty of surroundings has been wedded to athletic fields before now. There is beauty about the Stade Francais tennis courts outside Paris; landscaped beauty given dignity by the decades since the French queens. There is beauty of a clean, clear-cut kind in the shrubs and trees about some of the older football fields of England; and there is too, if you wish, a distant beauty seen as one looks from the California Memorial Stadium across the city of Berkeley, across the Bay of San Francisco, and through the low swung hills to the cloud pressed horizon beyond the Golden Gate.

In these places and others man has conspired and connived with nature to present a pleasing picture; perhaps one that will prompt the beholder to breathe deeply and murmur thanks life exists and life is good.

Another such place is coming into being. Upon the Valley Isle of Maui, in the Territory of Hawaii, beauty of motion and rhythm—

athletics—has been given a setting surpassed by no other playground in the world.

At Puunene, upon Maui—one of the five main islands in the Hawaiian group — the Hawaiian Commercial and Sugar Company has a large sugar cane farm employing some 3200 persons. All of them live, with their families, in small villages upon the farm. Their social and recreational lives revolve about the farm—and some sort of an athletic center was needed for them.

Plans were drawn to accommodate a football field, soccer field, baseball diamond, three tennis courts, a quarter mile cinder track with a hundred yard straight-away, a swimming tank and a children's playground. This field has an independent water supply. A deep well pump capable of delivering half a million gallons of water a day and two small surface pumps were installed adjacent to the swimming tank. These supply water for the tank and the showers in the dressing rooms as well as irrigation water for the gardens and playing fields.

The sports center of this ambitious project was recently completed and the unique idea of having a landscape gardener lay out an athletic field is already sound.

Pinching the island of Maui, as the whale-boned corsets of the gay nineties hour-glassed the lassies of those days, is a low lying isthmus. Upon this isthmus is the Puunene sugar cane farm with the green fields stretching north and south to the distant blue of the Pacific. Hiding the rising sun the gently sloping mantle of Haleakala mountain rears more than ten thousand feet into the clouds; westward is a rugged range of volcanic mountains sliced and cut by narrow valleys and governed by lordly Puu Kukui from its sixty-five hundred foot throne.

The road upon which the athletic fields face is planted with pink shower trees behind a narrow strip of green lawn. Antignon is trained over the entrance to the low bleachers with groups of pink and white hibiscus placed between the cocos palms which flank either side of the bleachers. In front of the bleachers are two groups of oleanders in pink and salmon; behind them stretches the cinder track and wide green expanse of the fine cropped grass football and baseball fields.

Extending from the bleachers to the ends of the field are two dry stone walls some four feet in height. Time is covering them with the beautifully delicate flower of the night blooming cereus. Travelers palms accent plants at the entrance to the smaller parking areas. These areas are surrounded by oleanders, alpina nutens, malpigea, holmskiolda and hibiscus.

In the triangles made by the joining of the quarter mile track with the hundred straight-away directly in front of either end of the grand stand, plumerias and durantas in cream and blue provide a background for plumbago capensis in blue and white. Groups of perennials round out the triangles while over all stretch stately cocos palms.

On the east, or left from the entrance, boundary of the athletic center a group of jacarandas mingle with monkey pod trees which were growing upon the spot before the plans were drawn. In the background near the tennis courts which nestle against this eastern boundary, is a small group of Hala trees. Plumbago copensis, allamanda and thunbergia are grouped in the foreground. The predominating blue color is repeated with solanum wendlandi on the slat side fence of the tennis courts and relieved by white thunbergia grandiflora and passion flower vines.

The entrance to the courts is covered with white thunbergia grandiflora and a group of cocos palms and low growing jatropha, rediianthra and hydchium extends from the shrubs surrounding the parking area to the courts.

Along the entire eastern boundary of the sports center ficus and casaurina have been used for a wind break.

A hibiscus hedge joins the tennis court fence to a circular thatch-covered pergola adjacent to a children's wading pool. Not far from that is the orange bignonia covered entrance to the swimming pool. Orange ginger is planted in back of the bleachers and a tropical touch is

(Please Turn to Page 42)

USE OF GLASS FOR STRUCTURAL NEEDS

UNITS MADE FOR NON-BEARING EXTERIOR WALLS

by Harold Perrine

GLASS, particularly in its modern applications to construction, is an interesting subject. It is not new—in fact, it is one of the oldest materials, yet probably one of the least known. Its discovery is lost in antiquity. One of the earliest evidences of Eastern civilization was conveyed to the inhabitants of Europe by adventurers who, returning brought with them receptacles made of glass.

In the ancient tombs of Egypt have been found glass bottles known as tear bottles. When a death occurred the mourners, even as in our day, gathered at the bier and wept for the departed. The women, however, each had a glass bottle in which to catch their tears. These bottles would be deposited with the remains. The durability of glass is evidenced by the fact that these bottles when discovered showed but little evidence of change. In the Metropolitan Museum of Art in New York City are many tear bottles conservatively estimated as to age at 3000 B.C.

Through the ages we find glass a most useful material. The best examples of early glassware were found in ruins of tombs and places of worship in Phoenicia and on the Isle of Crete. On these examples the artisans of old showed great skill.

It was in Venice, in the early days of the Christian era, that the manufacture of glass was centered. Venice is credited with having first used molds in shaping glassware. Venice was very jealous of this knowledge and used every device to prevent its spread to other countries. Because of her drastic policy, it was not until the twelfth century that the art spread throughout Europe. It was then that glass began to play a really important part in the progress of man.

We are indebted to glass for optical instruments, for test tubes as used in our modern laboratories and hospitals, for telescopic lenses and reflectors, by the aid of which scientists are daily contributing to the world's knowledge. Glass finds an important use in dishes, goblets and cooking utensils, for containers for food, beverages, prescriptions, medicinal and drug preparations. Its chemical stability and resistance to acids and alkalis make glass particularly well suited to use as containers.

However, it is in its use as a structural material that we are primarily interested. Its first use in this field was in window panes, applied to exclude the elements while affording visibility. Later it was used to assist illumination by protecting the source of light and also in some instances as a lens for projecting or controlling light rays. For centuries this constituted almost its sole use in buildings. It has been only in comparatively recent years that other uses have been found.

GENERAL OFFICE IN INDUSTRIAL PLANT, SHOWING THE USE OF GLASS BLOCKS FOR HEAT INSULATING FILLERS FOR WINDOW OPLENINGS

Editor's Note—This article is from a paper read by the author before the Structural Engineers of San Francisco.

EXTERIOR VIEW OF CLUB BUILDING, SHOWING USE OF GLASS BLOCKS FOR STAIRHALL ILLUMINATION

We now find it used as an insulator for telephone, telegraph and power lines; and as an insulation material in building construction used to assist in controlling temperature and humidity; as a thermal insulator; as a sound absorbing material; used both to lower the sound level and to correct faulty acoustics; as beautiful and colorful wall coverings, as the wainscot in corridors, baths, kitchens and other parts of buildings where cleanliness and sanitation are paramount.

Conceive, if you will, a single strand of glass, practically six thousand miles long, spun from one pound of glass. A thread that would reach from San Francisco to New York and return. Such fibers are those you find in glass insulating wool. In this form it is felted into bats of convenient size for application between studs, joists or rafters. Its weight is one and one-half pounds per cubic foot. It will not support combustion. Tests shows its thermal transmission value to be .26 B.t.u. per inch thick, per square foot, per degree F., per hour.

The same properties that make this material adaptable for thermal insulation at atmospheric temperatures also make it applicable for both low and high temperature insulation. Its chemical and physical stability tends to pre-

EXTERIOR, WINDOW IN INDUSTRIAL PLANT LABORATORY, USING GLASS BLOCKS AS FILLERS FOR WINDOW OPENINGS

SHOWING APPLICATION OF GLASS BLOCK AS A DECORATIVE MATERIAL. BLOCKS USED IN BAR ILLUMINATED WITH COLORED LIGHTS FROM BEHIND

vent breaking down in the presence of moisture or temperatures encountered in steam or hot water equipment.

For use as an acoustical material, we find fibrous glass moulded into tiles for attaching to ceilings and walls. It is also used as a sound absorbing pad in conjunction with the perforated metal pan known as the Burgess system. Here, again, we find its fire-resistant value of importance.

Glass finds another application in air conditioning in the use of fibrous glass replaceable air filter. This filter medium consists of glass fibers bonded into a mat of criss-cross fibers, each being covered with a non - evaporating viscous adhesive,—all forming a path through which the air travels in having the dust and dirt removed by the adhesive.

Glass building unit construction is probably the most recent application of glass as a structural material. These blocks are made of glass of the same chemical and physical characteristics as used in the manufacture of electrical insulators. Conditions surrounding the use of electric insulators are to be found the most severe uses to which glass is subjected. Glass insulators must be physically sound to prevent electrical leakage, resistant to atmospheric conditions to give long life, and extremely strong to resist line pull and pin expansion.

In manufacturing these blocks, the two halves are first formed in automatic presses. By forming in this manner it is possible to maintain a uniform cross-sectional area. The two halves are removed from the press, the edges immersed in molten metal alloy, and then joined on the welding machine and on this machine held together until the weld is complete. The metal alloy makes a homogeneous weld, and is as strong as any other part of the block. As this weld is made while the entire block is at a temperature of approximately 1100° F., the entrapped air is rarefied and devoid of all moisture. As the block cools, this air contracts and forms approximately 50 per cent vacuum.

After welding, the blocks are placed in an annealing lehr where the internal stresses caused by unequal cooling are removed. Upon removal from the lehr, the bonding surface is applied to the mortar faces and the blocks packed in cartons for shipment.

During the entire manufacturing operation a continuous sampling and testing program is maintained, thus insuring blocks of uniform quality.

In tests conducted at Purdue University to determine the compressive strength, mortar adhesion, resistance to wind stress, transmission of heat and transmission of light, the following results were noted:

In compression, the individuals blocks averaged from 800 to 1000 pounds per square inch ultimate strength, the first crack appearing at approximately 700 pounds per square inch.

In the mortar adhesion tests, the mortar bond in tension averaged 43 pounds per square inch and in shear 111 pounds per square inch. In resistance to wind pressure panels seven feet three inches by eight feet seven inches were tested to failure and a pressure of 160 pounds per square foot was required to deflect the center of the panel four and 32 hundredths inches. In heat transmission, the coefficient of heat transfer, air to air, was found to be .29 B.t.u. per square foot per degree difference in temperature per hour. This test was made on the wall thickness of three and seven-eighths inches.

In testing for solar heat penetration, the values varied according to the direction of the exposure—if toward the east, south or west. It was found that the percentage of saving of penetration as compared to window glass was from 38 per cent to 51 per cent.

In these blocks, the transmission of light is controlled by differences in the prismatic face designs on both the outer and inner faces of the block. This variation is from 11.7 per cent to 86.5 per cent of all the light falling on the block. As stated before, these prismatic faces are so designed to diffuse the light so as to

prevent the passage of direct rays of the sun. These faces are so designated as to prevent the concentration of the sun's rays and thus cannot act as a concentrating lens.

This new glass block construction is used in non-bearing exterior walls, for interior non-bearing partitions for store fronts, residential work, and for other building details. Non-bearing walls of glass, laid up as brick or tile is laid, using the same mortar and erected by the same mechanics, afford insulation and admit diffused light.

DRAWING SHOWS LANDSCAPE DEVELOPMENT OF FIFTH STREET PLAZA, SAN FRANCISCO, APPROACH TO BAY BRIDGE.
A progress picture was published in this magazine last month. The development has since been completed

GUEST ROOM IN A SAN FRANCISCO HOTEL
Margarete Curtice, Interior Decorator

LANDSCAPING A RECREATION CENTER

Concluded from Page 36

added by the grouping of Washingtonia palms at a corner of the pool.

The southern boundary of the center is given over to groups of Jacaranda, Koa, African Tulip, Brassia and Australian nut trees. Both tall and low growing shrubs are planted in front of the trees to add color and bring the line of planting to ground level. At the western end of the boundary, near the basketball court, three rainbow shower trees are located in the lawn where their shower blooms are most effective.

Over the entrance to the basketball court is trained a cup of gold vine. Streptosolon jamesonii is used for the foundation planting about the court. Single palm trees are planted in the lawn in front of the flower borders and at one spot a small group of flame trees is placed where their wildly scarlet flowering branches will not be obscured by other foliage.

Flower lovers may, if they shut their eyes, be enabled from this meager and entirely inadequate description of the plantings to visualize the soft blending of greens, reds, whites, yellows, browns, buffs and other colors to be seen no matter in which direction one looks in this Hawaiian recreational center. And perhaps, stranger things have happened, it may serve as a model for like recreational centers of the United States. There is no valid reason why the surroundings of athletic playgrounds cannot be made as beautiful as the best of gardens.

LIGHTING THE HOME AT YULETIDE

By Oscar Cleaver

THE traditions of Christmas are so old and such a part of human evolution and mankind's religious beliefs that its traditional symbols—the wreath, the candle, the fir tree or Christmas tree — cannot be disassociated from its celebration without losing something of the spirit of the season, not to mention active opposition from the more conservative among us. Christmas is essentially of the past. And, any attempt to dress it up in modern forms, using chromium and stainless steel, queer and unusual color combinations, in other words, to streamline Christmas, is not only incongrous but almost sacrilegious.

Always, however, there are a few brave souls who want to be different even at Christmas time, and who have been hard put to use the various traditional Christmas symbols in new and novel ways year in and year out. There is no doubting the difficulty of the problem, especially in the interior of the home. But, few have realized the ability of light, as symbolized in ancient times by the candle, to make a room look different, to make old Christmas decorations take on new life and sparkle.

Electric Lamp Replaces Candle

Of course, the electric lamp is essentially modern as a source of light but its various sizes and forms make it readily adaptable for Christmas decorations of the most traditional kind. The electric lamp has indeed superseded the candle as a source of light for Christmas. Yet, in doing so, it has robbed this occasion of none of its beauty and spirit, but has rather enhanced it. In short, the electric lamp has made light the dominant part in any expression of "Peace on Earth and Good Will to Men" by our leading decorators in this country and abroad at Christmas time.

Of the many thousands of electric lamps on the market today, a specific group is most commonly used for decorating within the home. These lamps are readily available at various department stores and electrical shops.

The first rule to follow in any scheme of docoration is to be certain that all lamps are in good condition. Be sure they have not already burned their full life last year and thus have only a few hours of service for this year's new decorations. Next, be assured that you have sufficient lamps of the proper color and size to produce the effects you have planned. And your decorations must follow a plan if they are to be totally successful. Good Christmas lighting is not like Topsy. Plan your decorations and then work your plan!

In making your plans, however, there are a few things to remember:

1. Lamp cords and bare lamps, except of low brilliance, are unsightly and spoil every effect. Lamps can be shaded or screened and lamp cords can be entwined with evergreen or garlands.

2. Care must be taken not to overload the house circuits. Not more than 1000 watts should be placed on any one circuit in the home. When fuses blow don't replace them with pennies—many fires start that way.

3. To avoid the possibility of fire, don't place high wattage lamps—75, 100 or more—near paper ornaments, draperies, walls, artificial cotton or other forms of decoration not fire-proofed.

4. Always have spare light bulbs on hand.

Observance of these few "don'ts" will save much time and perhaps the house itself, and are a necessary part of your plan.

Dressing the Christmas Tree

Every year the Christmas tree is a real problem—if it is to be different than last year's. Some like regular candles, but fear the fire hazard created as well as the muss from the drip. Others like fancy paper ornaments and abhor the strings of colored lamps so commonly used today, then there are those more sophisticated souls who prefer a tree sprayed white, floodlighted in blue or some such color and bare of any ornaments except perhaps thin streamers of silver foil. Everybody to their taste this year for available equipment permits a wide novelty of design.

For those who like the old-fashioned candles with their bright sparkle, there is a new series string of lamps consisting of realistic formed candles in various colors, topped by a small T-3¼ Mazda lamp. A bead arrangement fastens it to the tree conveniently, and it has much of the charm and brilliance of the candle light. Of course, the usual strings of lamps in various colors and with various size lamps are still available for those who like many colored lamps as the major motif in tree decoration.

The convenience of the new 7 Watt C-7-½ lamp designed for operation at regular house voltages is not to be overlooked. A string of these lamps which are small in size and wattage will continue to burn even though one lamp goes out.

For those, however, who prefer white or green trees with tinsel ornaments and no lamps hung on the trees

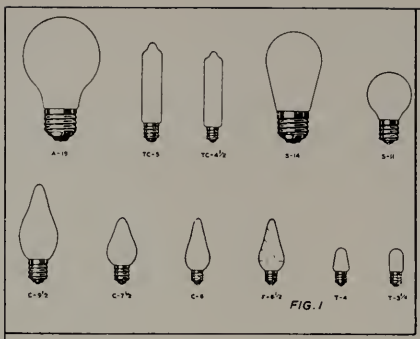


FIG. 1

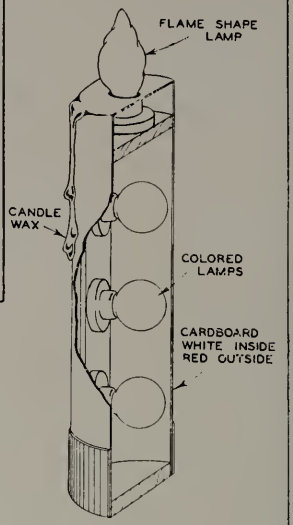


FIG. 2

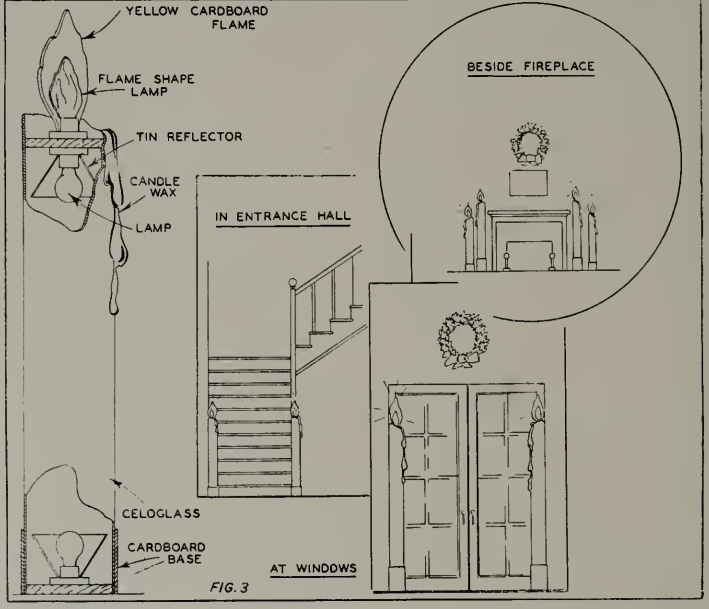


FIG. 3

themselves, the problem has been a little difficult to solve indoors. Outdoors it has always been simple to floodlight such trees, but indoor floodlights of the usual type have been too large and unsightly to use.

A simple and easily constructed way of accomplishing this same effect indoors in a dramatic way is shown in Fig. 2. The two candles may be constructed by building a light wooden frame, weighted at the base and covered with sheets of cardboard or similar material. The cardboard may be painted red, and actual candle grease used to form the drip on the sides. Three lamp sockets equipped with inside frosted or colored lamps are fastened to the frame work on the inside and a flame shape 25-watt flame tinted lamp is located at the top. Placing the open side of the candle towards the tree, floods it with light. If the tree is large, two candles are recommended. By using different colors in each, interesting shadow and color effects can be obtained on the tree and nearby walls. A white tree covered with strings of silver foil, and floodlighted in blue from one side and amber from the other is very striking in appearance. The amber lamps in this case should be half the wattage of the blue lamps.

The same idea may be worked out in many other ways in order to obtain concealed floodlighting of indoor trees. If facilities are available, small Santa Clauses can be cut out of cardboard or wall board and lamps concealed in troughs at the back in much the same way. For the best effect, it is well to reduce the other lighting in the room slightly, and to locate the tree near a corner, if not in one.

Many times a single Christmas tree, beautifully done, is the most effective Christmas decoration in the home, especially in the smaller ones. Locating these trees near windows has the added advantage of giving the world a peep, an unselfish gesture and pleasure to the passersby.

Giant Candles Effective

Other means of decorating, however, can be used in the home. Large candles constructed on wooden frames and covered with some form of translucent material such as celoglass, or even crepe paper if care is taken not to come in contact with the lamps within, offer a unique decoration for Christmas. (Fig. 3). These candles may be constructed in half or full cylinders each with a socket at the top and bottom for lamps and a small tin reflector which can be made out of sheet tin at home. The flame shape lamp and candle drippings at the top complete the illusion, and a cover of cellophane will give it a shiny, frosty appearance. Such candles can be used to create numerous interesting effects in the home, at the mantle, in the entrance hall, at the windows, alone or in combination with wreaths as illustrated.

Another interesting treatment for windows and doors, is a small cutout of some Christmas scene silhouetted against the wall above the door or window. These cutouts may be made of cardboard (Fig. 4) and lighted with small colored lamps. Such combinations should be fastened to a board that rests along the frame and fastened at each end by a small brace. The cord from the lamps may be concealed along the edge of the window or door and attached to a convenient outlet at the baseboard. The board may be concealed by artificial snow, forming an interesting outline for the opening question.

The corners of most living rooms are relatively dark and few are utilized for furniture due to modern modes of decoration; they therefore serve as excellent locations for either the large luminous candles (Fig. 5) combined with a continuous garland of evergreen draped around the room at the ceiling, or for interesting lighted decorations such as cutout evergreen trees made of two planes of cardboard or wall board and illuminated (Fig. 6). Colored lamps of small wattage (25 watts) can be used to give light and beauty as well as novelty to your Christmas. The surfaces of these trees may be painted white, then with clear shellac and dusted with artificial snow. If care is taken, a sparkling surface is created that is very attractive.

Then, too, many living rooms have the usual wall brackets often unshaded. Glaring, unshaded wall brackets are always unsightly and especially at Christmas time when the family gathers together for comfort and good cheer. Interesting Christmas shields can be made to cover the lamps in these brackets using cardboard and a pot of paste. (Fig. 7). Even school children delight in designing these shields. There is no reason, either why the chandelier in the room or in the dining room should not be redressed for Christmas. This year try covering the chains or other supports with evergreen studded here and there with colored lamps of the series type (Fig. 8). Whether these lamps are all of one color or of many colors, according to your preference, the effect is quite festive. A special socket adapter, obtainable at most electrical shops, will permit the use of your regular lamp with a shade and will allow you to attach the series strings as well.

Snow Scene for Party

The party at Christmas always calls for something more elaborate in the way of decorations and novelty and the problem of being different naturally becomes more difficult. A rather clever solution is to create a snow scene either in the living room or the dining room (Fig. 9).

Strong white cords may be stretched near the ceiling from the four corners of the room to the chandelier or diagonally from corner to corner. If possible, intermediate strings will make the "Snow storm" more dense. Suspend from these cords, at about six inch intervals, "snow flakes" of small cotton

FIG. 4

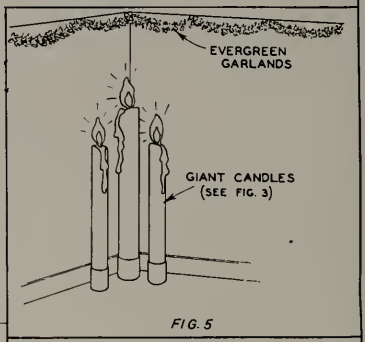


FIG. 5

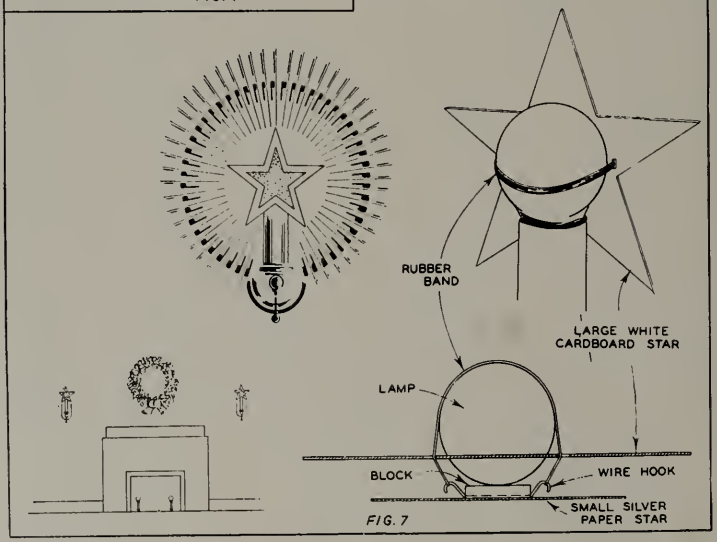


FIG. 7

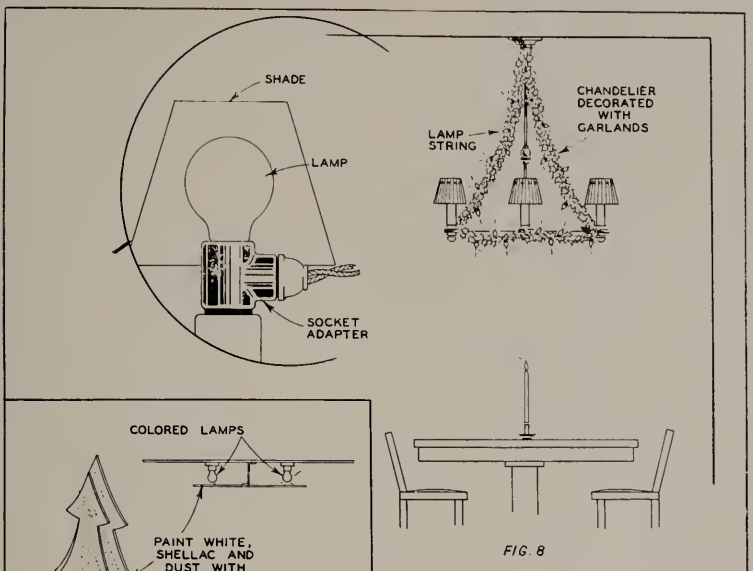


FIG. 8

FIG. 6

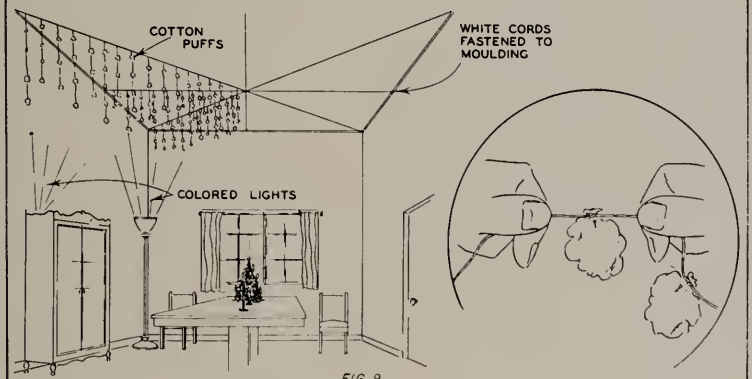


FIG. 9

puffs. The strings of cotton puffs suspended from the cords at the ceiling should be of varying lengths and as close together as practical. When these cotton puffs are lighted, the general effect is one of falling snow. (Homemade spotlights may be made of coffee cans, or similar covers, with shiny surfaces and the regular natural colored lamps. They should be located above line of vision on china cabinets or secretaries.) The "snow" is most effective if lighted from the four corners of the room with a different color from each corner. Flashers, like those used for Christmas trees, also enhance the effect. If the spotlights are too bothersome to make, then the totally indirect floor lamps which most every home now has, can be brought into play for the lighting effect. Socket adapters will be necessary to use natural colored lamps. To get colors without changing the lamp, place celo-glads screens over the top of the shade. Cellophane can be used also for producing the colored light.

With this snow scene as a background, the dining table can be decorated with candles, or small Christmas trees lighted with the new candle type series strings, or with various Christmas scenes concocted out of crepe paper, artificial snow and Christmas lights. A clever and inexpensive form of table or mantle decoration is the small artificial Christmas tree in white or green decorated with glass rods shaped to form candles. These glass rods extend to the interior of the tree and converge on one small wattage lamp. The light rays from this lamp are bent by the solid glass rods which make the candle shaped ends on the exterior of the tree appear luminous. It is a very convenient form of decoration and can be used year after year.

Christmas decorations, to be in good taste, should always have simplicity as a keynote, or else the spirit of the occasion will be lost in a confusion of trees, wreaths, candles, snow, and stainless steel, creating a hodgepodge without purpose and without effect. In fact, simplicity as a keynote for your Christmas very often takes the place of good taste. So, when it comes to decorating your home for Christmas, be simple!

U. S. REJECTS INTERNATIONAL STYLE

The "international style," widely accepted in Europe, is making little headway in America, says Roger Gilman of the Fogg Art Museum, Harvard University, in a study of modern architecture reported to the American Institute of Architects. It has aroused interest chiefly on the Pacific Coast and "in a few adventurous souls," he points out.

"We must admit that this is a widespread and thoughtful effort to create a new architectural environment for modern existence," Mr. Gilman declares. "Yet we cannot help asking ourselves if it is as inevitable, even as convincing, in all respects as its adherents insist. It would seem not.

"Such a theory, for instance, as every building being a volume of space enclosed by flat, weightless planes, is too remote a deduction to settle the style for both a small cottage and a city postoffice. Architectural form is not developed from one condition but from many; hygiene and logic are only two of a great number of factors. Walls of glass are often pure folly.

"So it is with modifications, in a more local, more human, and less theoretical form that it is chiefly used. Its outward symbols, horizontality, flatness of surface, repetition of motif, and bold geometrical shapes, above all its flexible symmetry, have already had an influence that is far-reaching, and may be long lasting.

"Where this international style shows signs of failure is in a lack of new developments. No new ideas, no new forms have been forthcoming since its start. In contrast to it, the traditional style has shown a good deal of development. In monumental designs, to be sure, the old rhythm of voids and solids remains, but the effect is directly in light and shade, in mass and in line.

"We all know how they were formerly masked by the beautiful details of columns and cornices and all the idiom of classic decoration. For instance this year in Paris a new postoffice still has shafts and cornices but without capitals or mouldings. In Poitiers, which calls itself 'The Romanesque City', the new Chamber of Commerce is much the same. Such types of facades with long established traditions apparently only change with reluctance.

"In other large buildings, such as apartment houses, the old elaboration has given way to plain surfaces, the old stone to brick and concrete, the old motifs, of bay and mansard and balcony, to motifs adapted from the new style. But the composition remains nearly the same.

"It is in America that this conservatively modern, which we might call the transitional style, maintains itself most strongly. Among us it attracts the majority even of the progressives. While it offers possibilities for large buildings which must appeal to the public by its air of progress and charm, yet it cannot venture too far beyond the public taste, for our man in the street is not so readily impressed by his architectural leaders as the European bourgeois.

"Nevertheless such a transitional style might almost be said to be reaching a new expression. Its elements might almost be set down: a very bold mass, a vertical line—which stems from our skyscraper type as much weight in the wall as we can afford, and beautiful material.

"Symmetry and striking composition combine these in a monumental if sometimes theatrical architecture of facades. Such recent buildings as Ralph Adams Cram's Federal Building in Boston, Paul Cret's Folger Library, and Holabird and Root's Remington-Rand

Building in Washington seem to indicate a phase of modern design that carries its own justification."

In intention, the international style was realistic, or objective, in contrast to the imaginative or subjective approach of the German Expressionists, Mr. Gilman explains. "The starting points of this new architecture were to be function and biology. The architect, no longer an inspired genius, was to be a sociologist, studying the needs of a new society; and a doctor, prescribing the requirements of hygiene, also an engineer, an industrialist, and withal a philosopher and artist. It is no surprise that one wing of the movement denied the existence in all this, of any aesthetic ingredient whatever."

Outstanding examples of the international style on a large scale in the East, according to Mr. Gilman, are the McGraw-Hill loft building and the Radio City office building in New York both by Raymond Hood, and the Savings Association Building in Philadelphia by Howe and Lescaze.

OPERATION OF SOCIAL SECURITY ACT

The Social Security Board recently issued the following public statement addressed to employees of industrial and business establishments, factories, shops, mines, mills, stores, offices, and other places of business:

"The old-age benefit provisions of the Social Security Act will go into effect on January 1, 1937. To understand your obligations, rights, and benefits under these provisions of the Act you should read the following general explanation:

"There is now a law in this country which will give about 26 million working people something to live on when they are old and have stopped working. This law, which gives other benefits, too, was passed last year by Congress and is called the Social Security Act.

"Under this law the United States Government will send checks every month to retired workers, both men and women, after they have passed their 65th birthday and have met a few simple requirements of the law.

"This means that if you work in some factory, shop, mine, mill, store, office, or almost any other kind of business or industry, you will be earning benefits that will come to you later on. From the time you are 65 years old, or more, and stop working, you will get a Government check every month of your life, if you have worked some time (one day or more) in each of any 5 years after 1936, and have earned during that time a total of $2,000 or more.

"The checks will come to you as a right. You will get them regardless of the amount of property or income you may have. They are what the law calls "Old-Age Benefits" under the Social Security Act. If you prefer to keep on working after you are 65, the monthly checks from the Government will begin coming to you whenever you decide to retire.

"How much you will get when you are 65 years old will depend entirely on how much you earn in wages from your industrial or business employment between January 1, 1937, and your 65th birthday. A man or woman who gets good wages and has a steady job most of his or her life can get as much as $85 a month for life after age 65. The least you can get in monthly benefits, if you come under the law at all, is $10 a month.

"Suppose you are making $25 a week and are young enough now to go on working for 40 years. If you make an average of $25 a week for 52 weeks in each year, your check when you are 65 years old will be $53 a month for the rest of your life. If you make $50 a week, you will get $74.50 a month for the rest of your life after age 65.

"But suppose you are about 55 years old now and have 10 years to work before you are 65. Suppose you make only $15 a week on the average. When you stop work at age 65 you will get a check for $19 each month for the rest of your life. If you make $25 a week for 10 years, you will get a little over $23 a month from the Government as long as you live after your 65th birthday.

"If you should die before you begin to get your monthly checks, your family will get a payment in cash, amounting to 3½ cents on every dollar of wages you have earned after 1936. If, for example, you should die at age 64, and if you had earned $25 a week for 10 years before that time, your family would receive $455. On the other hand, if you have not worked enough to get the regular monthly checks by the time you are 65, you will get a lump sum, or if you should die your family or estate would get a lump sum. The amount of this, too, will be 3½ cents on every dollar of wages you earn after 1936.

"The same law that provides these old-age benefits for you and other workers, sets up certain new taxes to be paid to the United States Government. These taxes are collected by the Bureau of Internal Revenue of the U. S. Treasury Department, and inquiries concerning them should be addressed to that bureau. The law also creates an "Old-Age Reserve Account" in the United States Treasury, and Congress is authorized to put into this reserve account each year enough money to provide for the monthly payments you and other workers are to receive when you are 65.

"The taxes called for in this law will be paid both by your employer and by you. For the next three years you will pay maybe 15 cents a week, maybe 25

cents a week, maybe 30 cents or more, according to what you earn. That is to say, during the next three years, beginning January 1, 1937, you will pay 1 cent for every dollar you earn, and at the same time your employer will pay 1 cent for every dollar you earn, up to $3,000 a year. Twenty-six million other workers and their employers will be paying at the same time.

"After the first three years—that is to say, beginning in 1940—you will pay, and your employer will pay, 1½ cents for each dollar you earn, up to $3,000 a year. This will be the tax for three years, and then, beginning in 1943, you will pay 2 cents, and so will your employer, for every dollar you earn for the next three years. After that, you and your employer will each pay half a cent more for 3 years, and finally, beginning in 1949, 12 years from now, you and your employer will each pay 3 cents on each dollar you earn, up to $3,000 a year. That is the most you will ever pay.

"The Government will collect both of these taxes from your employer. Your part of the tax will be taken out of your pay. The Government will collect from your employer an equal amount out of his own funds.

"This will go on just the same if you go to work for another employer, so long as you work in a factory, shop, mine, mill, office, store, or other such place of business. (Wages earned in employment as farm workers, domestic workers in private homes, Government workers, and on a few other kinds of jobs are not subject to this tax).

"Meanwhile, the Old-Age Reserve fund in the United States Treasury is drawing interest, and the Government guarantees it will never earn less than 3 percent. This means that 3 cents will be added to every dollar in the fund each year.

"Maybe your employer has an old-age pension plan for his employees. If so, the Government's old-age benefit plans will not have to interfere with that. The employer can fit his plan into the Government plan.

"What you get from the Government plan will always be more than you have paid in taxes and usually more than you can get for yourself by putting away the same amount of money each week in some other way.

" 'Wages' and 'employment' wherever used in the foregoing mean wages and employment as defined in the Social Security Act."

LIVESTOCK BUILDINGS

A group of buildings to be devoted to livestock breeding and marketing, are being designed by J. W. De Young, 730 S. E. Salmon Street, Portland, for the Northwestern Pacific Livestock Importers and Breeders Association. Plans for a huge dairy barn are under way. This construction will follow that of the farm residence and horse barn.

TEN MONTHS' BUILDING VOLUME LARGEST IN FIVE YEARS

With the October gain, the cumulative total of building permit values for the first ten months of 1936 for 215 cities amounted to $821,417,929, as compared with $477,418,081 for the same period of 1935. This represented a rise of 72.1 per cent, and marked the heaviest aggregate since 1931. All sections participated in the general increase.

The ten months' record of building permit values for 1936 and 1935, for the 215 cities, as compiled by Dun & Bradstreet, Inc., is given herewith:

Groups	Ten Months 1936	Ten Months 1935	Change P. Ct.
New England	$ 42,845,093	$ 30,238,561	+ 41.7
Middle Atlantic	259,385,102	157,095,467	+ 65.1
South Atlantic	88,873,798	54,316,533	+ 63.6
East Central	155,786,036	78,898,460	+ 97.5
South Central	88,876,346	43,596,513	+103.9
West Central	37,747,967	28,129,076	+ 34.2
Mountain	17,283,135	10,676,979	+ 61.9
Pacific	130,620,452	74,466,492	+ 75.4
Total U. S.	$821,417,929	$ 477,418,081	+ 72.1
New York City	$177,716,501	$ 114,301,808	+ 55.5
Outside N. Y. C.	$643,701,428	$ 363,116,273	+ 77.3

The building permit totals for the 215 cities for October and the first ten months of each of the past ten years, follow:

	October	Ten Months	Compared Previous Year
1936	$ 90,686,556	$ 821,417,929	+ 72.1
1935	66,965,705	477,418,081	+ 59.3
1934	37,501,122	299,805,958	+ 15.0
1933	26,198,342	260,739,318	— 24.8
1932	26,107,428	346,707,931	— 67.1
1931	76,929,109	1,053,776,089	— 27.3
1930	126,659,621	1,448,980,871	— 44.8
1929	213,089,242	2,623,606,248	— 8.1
1928	252,058,124	2,855,460,936	— 1.4
1927	250,021,123	2,895,753,249	

The following table compares the permit value totals of twenty leading cities for the first ten months of 1936 and 1935:

Groups	Ten Months 1936	Ten Months 1935	Change P. Ct.
New York, N. Y.	$177,716,501	$ 114,301,808	+ 55.5
Los Angeles, Cal.	53,831,986	26,202,648	+105.4
Detroit, Mich.	35,961,633	16,507,377	+117.9
Washington, D. C.	26,337,085	17,922,333	+ 47.0
Philadelphia, Pa.	18,487,800	8,020,990	+130.5
Cincinnati, Ohio	16,767,515	9,084,975	+ 84.6
Chicago, Ill.	15,874,851	11,608,397	+ 36.8
San Francisco, Cal.	15,771,892	10,205,703	+ 54.5
Houston, Tex.	15,555,890	5,563,271	+179.6
Baltimore, Md.	14,381,504	7,685,460	+ 87.1
Cleveland, Ohio	13,742,200	3,327,500	+313.0
Miami Beach, Fla.	11,002,275	8,452,001	+ 30.2
Miami, Fla.	10,011,380	4,155,947	+140.9
Dallas, Tex.	8,691,450	3,194,090	+172.1
Milwaukee, Wis.	8,640,440	6,361,857	+ 35.8
Boston, Mass.	7,899,500	7,074,542	+ 11.7
Memphis, Tenn.	7,818,230	2,772,900	+182.0
Oakland, Cal.	7,507,592	8,763,640	— 14.3
Ft. Worth, Tex.	7,497,243	2,820,677	+165.9
Oklahoma City, Okla.	7,472,577	1,920,758	+289.2

ARCHITECTS' BULLETIN

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Northern Section

STATE ASSOCIATION MEMBER
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AMERICAN INSTITUTE OF ARCHITECTS

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An Optomistic Outlook

THE word "Commencement" means, to most people, the end of a term. It brings to mind the picture of a group of glowing graduates who have finished their college careers and are being awarded diplomas, with accompanying celebration. Of course it really means "Beginning." And our recent convention was just that. It awarded a few diplomas, celebrated in gay and hopeful spirit, and started fresh plans for the future.

Being a commencement, there is no news to report to the profession as yet. The executive board is getting nicely organized, discussing plans, adopting a budget (Oh you stern, unyielding treasurer! You should have been a Banker instead of an Architect. That countenance can take on the aspect of granite—how appropriate that you should be the man with the **rocks**!), appointing committees, communicating with the Southern Board and with the State Board of Examiners. But after it has gotten organized (and allowing a decent interval for the holidays) watch the fur fly!

No News

Which is supposed to mean Good News. And with architects generally, now, it does—barring such trivial incidental goings-on as the strike, the election, the unseasonable fall weather, the European war (pardon, that is slightly anticipatory; to say "Fascist-Communist" struggle would be more meticulous, and still open to influence of wider scope), the Bay Bridge opening, the big game, and the high cost of drafting. Most of us are busy, even if our prospects do depend upon outside influences and decisions which range from a client's stomach-ache up to the Supreme Court.

But why bother as long as we have pencils and paper and reasons for using them?

Up To His Neck

One newly-elected member of the board, W. E. Baumberger, has fallen into a job hot off the bat. Five or six cities in his district (Marin County) have recently adopted ordinances which discriminate against, or rather, ignore, architectural supervision. They go so far as to require 5% of the total cost of a job, for supervision by their building department, if a general contractor is not employed. Mr. Baumberger is in charge of a campaign to educate these cities and to amend their unfair—and probably unconstitutional—ordinances. Volunteers to assist in this campaign will be welcomed.

A DISTINCTION

There is a change in our Association office. We now have a Mrs. Noel Milton officiating at the desk — but she will still continue to be our Miss Kragen, for purposes of business and secretariat, and in our affections—including the draftsmen who come and go and confide in her their dilemmas and difficulties, their hopes and happinesses. She listens, and sympathizes,

and advises, and sooner or later she finds places for them and transfers their problem to the tender mercies of architect or bureau or contractor; yes, the office gets requests for help from others than our own members. Loyalty, first to architects, then to future architects—that is what our Miss Kragen stands for.

ACCOUNTING FOR ARCHITECTS

The American Institute of Architects suggests that a reference in the Bulletin to the new Standard Accounting System for Architects would be in order. For some years a committee headed by Edwin Bergstrom of Los Angeles, (permanent) treasurer of the Institute, has been working out this system, and now offers a complete set of books at a moderate price, which are guaranteed to put any architect's business into order, and enable him to determine the exact amount of cost, profit or loss for which each of his jobs stand. Incidentally, of course, it answers his income tax problems, and constitutes a complete record of his work. The system seems elaborate, more suited to a large organization than to the small office, but we are assured that it is comparatively simple and applies equally well to all degrees of practice. Full information may be obtained from the A.I.A., 1741 New York Ave., Washington, D.C.

HOME BUILDING COMMANDMENTS

The National Society of Residential Appraisers has set forth ten commandments for the guidance of the 1936 home-builder. These "don'ts" are designed to overcome common mistakes which decrease the potential value of a home:

1. Don't build too pretentious a house on a cheap lot or vice versa. The ratio of house to land value should tend toward not less than 3 to 1 and not more than 7 or 8 to 1.

2. Don't put a squatty, low house on a low piece of ground, or a tall, thin house on the crest of a hill. In this connection it is suggested that where plans for the house have been drawn up by an architect for a site different from the one for which they are now being used, extreme care should be taken that they fit the new location.

3. Don't put a large house on a small lot, nor set the house close to the street when you have a deep lot.

4. Don't build a garage detached from the house; but provide an entrance to the attached garage from the inside of the house.

5. Don't plan the exterior first and then force the interior to fit the outside plan. This is often the origin of the poorly laid-out house, an uneconomic use of the space.

6. Don't put cheap or out-of-date products and equipment into a house that is otherwise well built and modern.

7. Don't have non-matching exteriors and interiors, as to quality of materials. It costs far more to repair inconsistencies of this kind after they have been built into the house than to avoid them in the beginning.

8. Provide a convenient space in the kitchen for the installation of a mechanical refrigerator, and avoid installation of antiquated heating systems without automatic control.

9. Have windows, doors, and radiators so placed that the normal amount and type of furniture can be arranged tastefully and easily in the rooms. Watch the location of the light plugs.

10. Allow for closet space on the first floor and for ample closet space in connection with the bedrooms. Closet space is one of the distinct advantages which the single-family home can usually boast over the apartment dwelling.

BUREAUCRATIC ARCHITECTURE

In a statement renewing his protest against "bureaucratic domination of the arts", Hobart B. Upjohn, president of the New York Chapter of the American Institute of Architects, appeals to the professions of engineering, medicine, and the law as well as the entire building industry "to support the architects in their stand against socialization of the professions".

Mr. Upjohn expresses the belief that maintenance of a large State Architect's Office is a "tremendous extravagance", and that it leads to sterility in architecture. He deplores the tendency to make "the people the servant of the government".

"The design of all important public structures should be entrusted to architects in private practice, selected for merit on their records of achievement or by competition," Mr. Upjohn declares. "Design by bureaus sooner or later results in aesthetic sterility.

"It is part of the American credo that governmental agencies should be limited in competition with individual enterprise to cases of absolute necessity."

Mr. Upjohn charges that Colonel Frederick Stuart Greene, State Superintendent of Public Works, has "discredited the entire architectural profession", by a public declaration that "the Bureau of Architecture of the State of New York can do a better job than private architects". Colonel Greene's attitude in the controversy between the architects and the state officials was expressed in an interview reported in "The Albany Evening News".

"The architects consider such a statement by a public official quite out of his province, and cannot allow it to go unchallenged," Mr. Upjohn said. "Colonel Greene and the people of the State are fortunate in having as head of the Bureau the efficient and conscientious William E. Haugaard. His staff of assistants undoubtedly includes several able men.

"It remains a fact, however, that most men having the ability to carry on their own practice and to enjoy

the creation of their own designs are little attracted by a position in which they would always be subordinates to a political bureaucrat. A national competition recently held for the design of the Oregon State Capitol brought forth 120 designs from architects throughout the country; six prizes were awarded, four of which came to architects in New York State.

"Is it reasonable to assume that an office composed of Civil Service employes is superior to the winners of this competition against the whole country? And where did these men of whom Colonel Greene boasts receive their experience? If the truth were admitted, every last one of them who is worth his salt was trained in private practice as principal or employe.

"The best men in the governmental architectural bureaus are invariably anxious to enter the employ of firms in private practice. No government bureau tends to create a pusher, and most of the personnel follow the path of least resistance."

Quoting Colonel Greene in referring to private architects, as asking: "What do they want—to cost the State a lot of money?" Mr. Upjohn asserts that "this is a purely malicious remark of which he should be ashamed".

"The State Architect's office in reality cannot possibly do work for less than the architects in private practice, provided the work be of the same quality," Mr. Upjohn continues. "The Department of Public Works claims to be able to give complete architectural service for 4½ per cent or less of the cost of the project. The architectural profession challenges the accuracy of these figures and would welcome the opportunity to review them.

"It is our belief that except for some very special emergency program the maintenance of a large State Architect's office is a tremendous extravagance. Colonel Greene must of necessity grab off all the jobs in sight, in order to justify the size of the staff, which is not elastic, as it comes under the Civil Service, and is therefore at times a wasteful expenditure to the taxpayers of the State.

Mr. Upjohn takes issue with a statement attributed to Colonel Greene that "besides an architect's private fees there are always 'extras' to be considered".

"Just what does this mean?" asks Mr. Upjohn. "With careful study and proper cooperation between architect and owner, extras are easily avoided. If the experience of the State is that there are many extras on State work designed by private architects, then the State is lax in providing correct information to the architects. If the experience is that there are no such extras, then this is a deliberate and malicious attempt to discredit the private practitioner.

"Mr. Greene says that by 'having the State do the work, this money is saved and so far as the work is concerned, it will be better'. The word 'extra' means 'additional'—therefore extras are additional work not covered by contract. There are three types of extras: additional work or material ordered by the owner to fulfill new requirements not covered by contract; changes made by an owner resulting in additional work not covered by contract; changes necessitated by errors or omissions.

"Extras as thus outlined would be the same whether the designs were drawn up by the State or private architects. Should errors or omissions be discovered in the contract documents, responsibility can be determined with a private architect, because the functions of the owner and architect are clearly defined.

"But under conditions such as Colonel Greene wants them, owner and architect are figuratively one and the same person. Consequently the one cannot hold the other to accountability for errors and omissions, but the owner who is also the architect is 100 per cent responsible for the architect's inefficiency and shortcomings."

Colonel Greene is reported to have said that private architects "don't know the needs of the State as we do", and that "it would take a private architect six months to gather the information that we now have in hand".

Mr. Upjohn comments: "This is a strange statement. The Department of Public Works represents the owner (the State or the people). The Department very properly know, or should know, the requirements which must be met in planning a building for the State, and such information should be available to private architects when they are retained.

"A client does not expect an architect to be clairvoyant. He tells the architect what are his needs. If Colonel Greene means that his office cannot supply proper information on a proposed building in less than six months, it is an admission that the Department is either lax or deliberately withholding information to discredit the private architect."

Replying to Colonel Greene's statement that "the State Architect's Office is the largest architect's office except the one of the Federal Government," Mr. Upjohn asserts:

"The more is the pity. Instead of making the government the servant of the people, our country seems bound to make the people its servant."

It is a fact, Mr. Upjohn points out, that there have grown up in Federal, State, and local units of government great official architectural bureaus.

"Directed by men of integrity, but often of limited outlook, and manned by armies of Civil Service or semi-political assistants, these bureaus openly compete with private individual enterprise in the field of designing public buildings and monuments," he adds. "This is a field in which every practicing architect is proud to give his best efforts. It is a field in which the public, which pays for these structures, has the right to demand the services of the best talents in the profession.

'Architects who have done a large amount of public work would welcome most heartily a Bureau of Architecture in every governmental unit wherever possible, which would act as a general planning advisory unit, establishing standards and exercising supervisory authority over forms of contracts and general integrity of construction. Such bureaus would also be properly in charge of repairs, maintenance of public buildings, and minor works of a routine nature."

The New York Chapter of the Institute has protested against the selection of the State Architectural Bureau to design the New York State War Memorial Building in Albany. The State, the Chapter said in a letter to Governor Lehman, is being deprived of the service of its greatest creative artists.

PALOS VERDES GARDEN CONTEST

The Pacific Coast Chapter of the American Society of Landscape Architects, in conjunction with the Palos Verdes Estates Chamber of Commerce, has announced a garden contest to be held in Palos Verdes Estates, ending August 1, 1937. The following rules governing the contest have been drawn up by the committee of landscape architects, Ralph D. Cornell, Hammond Sadler and Katherine Bashford:

1. Only those gardens located within the boundaries of Palos Verdes Estates will be eligible for entry.

2. Since the contest is devoted to the stimulation of better landscaping in the many new homes that are being erected in Palos Verdes Estates, only those gardens of homes completed between August 1, 1936 and August 1, 1937, will be eligible for entry.

3. Only those gardens, the total cost of which for construction and planting (exclusive of cost of lot and building) is less than $3,000.00 will be eligible for entry.

1. An award of $300 will be given to the owner of the winning garden.

2. An award of $200 will be given to the landscape architect who designs the winning garden.

(In the event the owner of the winning garden has employed no professional service, the $200 that would ordinarily be awarded the landscape architect will be added to the prize money of the following year's contest or disposed of as the committee sees fit.)

Awards are to be donated by the Palos Verdes Estates Chamber of Commerce.

Judges

1. Judges are to be three in number and will consist of two qualified Landscape Architects and one Architect. They are to be selected by the committee from the Pacific Coast Chapter of the American Society of Landscape Architects.

2. No landscape architect who has an entrant in the competition will be eligible to act as a judge.

Judgment of the gardens will be made on the following points in design in the ratios as stated:

1.	Relation of the House and the Garden	20 points
2.	Adaptation of the Garden to its Site	20 "
3.	Space Composition	15 "
4.	Scale	10 "
5.	Functional Efficiency	10 "
6.	Appropriateness of Construction Materials	10 "
7.	Appropriateness of Plant Materials	15 "
	Total	100 points

Patios, Garden Courts and Outdoor Living Rooms will be considered to be gardens from the standpoint of the contest.

It is the spirit of this contest that no garden is too small to enter and that judgment will be made upon the quality of design and fineness of achievement rather than on the size of the area treated.

In explanation of the above schedule on which judgment will be based the following may be of help:

The Relation of the House and Garden is very important since it is the purpose of most gardens to contribute to the amenities of every day living and to bring the joy of flowers and living things into the home. While a good garden might be designed without bearing any tangible relationship to the house, either architecturally or in size and pretentiousness, it is generally considered that a proper and functional relationship between the house and its garden is hightly desirable, if not actually necessery to the success of the garden.

Adaptation of the Garden to Its Site. A garden may fit the ground in which it is built or it may go contrary to all the suggestions of topography, soil and exposure that nature, herself, has made. Either type of garden might be well designed in the abstract but the garden that has taken advantage of all the natural suggestions, using them to its own advantage and economy of construction, is better designed than one that has ignored such conditions. It is the spirit of this contest that a garden should be adapted to the site on which it is built and that the economies of such adaptation are elements in good design.

Space Composition is the relation of open spaces to upright masses. Some gardens are so filled with plants that they lose all semblance of composition. It is important to design in three dimensions and to keep in mind the composing of the space within the garden walls. Open, flat areas are often more important to good design than are the upright masses of buildings, structures and planting. Space composition deals with these values and relationships.

Scale in design has to do with the relative size of objects, one to another. A well designed garden may be thrown entirely out of scale by the introduction of one feature or object within its confines that is too large in relation to the other garden features. One element may dwarf the scale of everything else in the garden. And, contrarily, some feature that is intended to be an accent or point of interest in the design may be too small for its purpose, so small in relation to the rest of the garden that it fails to function as desired and is inadequate to its purpose. Proper scale is essential to good design.

Functional Efficiency has to do with the uses to which a garden is put. A well designed garden must function efficiently to its desired uses. If it is merely to look upon, it must look well; if it is primarily a cutting garden, other values may be sacrificed to the production of flowers; if it is an outdoor living room, it must function properly as such. Functional efficiency cannot be ignored.

Appropriateness of Construction Materials is essential to honest design. One must not think in stone or brick and build with concrete; one must not think in large-scaled areas and build with small-scaled materials. The materials should suggest the uses to which the garden is put and also the scale of the budget. The design is influenced by the materials used and these materials must, in their turn, reflect the spirit of the design.

Appropriateness of Plant Materials is absolutely essential to successful gardens. A good design may be ruined by the incorrect use of plant materials and a poor design may be greatly embellished by well selected plant varieties. Only as the selected plants interpret the design and may thrive under the conditions of soil and exposure to which they are subjected can any garden be successful.

With the Architects

CERTIFICATES TO PRACTICE

At a recent meeting of the State Board of Architectural Examiners, Northern District, Provisional Certificates were approved for the following: Ernest R. Duckering, 864 Bayview Ave., Pacific Grove; E. Boyter, 1720 Leavenworth Street, San Francisco; Ralph N. Pollack, 536 Broderick Street, San Francisco; Arthur B. Gallion, 1800 San Antonio Ave., Berkeley; Wm. Diest, 1019 Leavenworth Street, San Francisco.

BAY BRIDGE TERMINAL

A contract has been awarded for wrecking and removal of old buildings on the site of the Bay Bridge Terminal which is the block bounded by Mission, Howard, Second and Beale Streets, San Francisco. Plans call for a three story structure, 400 feet long, steel frame and reinforced concrete. Timothy Pflueger, Arthur Brown, Jr., and J. J. Donovan, are the architects. The estimated cost is $1,000,000.

SAN FRANCISCO RESIDENCE

A fourteen room brick veneer residence has been designed by Houghton Sawyer, architect, 337-17th Street, Oakland, for Dr. Gunther W. Nagel. The house will occupy a view lot on Green Street, San Francisco, and will have a slate roof.

COUNTRY ESTATE

Plans have been completed by Messrs. Noble and Archie T. Newsom, Russ Building, San Francisco, for the first unit of a country estate at Almo, Contra Costa County, California. The unit will consist of a garage and chaffeurs quarters. Construction will be frame and brick veneer.

ARCHITECT'S HOME

On Edgewood Road, Palo Alto, Birge M. Clark, architect of Palo Alto, will build a $15,000 home for himself. There will be nine rooms, two baths and double garage, stucco finish, shingle tile roof, steel sash and hardwood floors.

$450,000 MALT PLANT

The Modern Malting and Manufacturing Company, Rialto Building, San Francisco, has announced early construction of a $450,000 malt house in San Mateo County. The structure will be four stories, of reinforced concrete and will cover ground area 80 by 230 feet.

ASSEMBLY HALL

The Visitacion School District has had plans prepared by Thos. M. Edwards, 9 Geary Street, San Francisco, for a one story frame and stucco assembly hall to cost $12,000.

GEORGE W. KELHAM, ARCHITECT

The sudden death of George W. Kelham shocked the profession on December 7. Stricken with a heart attack the 65 year old architect, passed away at the Dante Hospital with Mrs. Kelham and their son, Bruce, at his bedside.

Mr. Kelham's death ended a brilliant career in the profession of architecture. He ranked among the leaders of his profession in the United States.

Born in Manchester, Massachusetts, May 15, 1871, Mr. Kelham was graduated from Harvard University. He studied abroad for four years and returned to make his home in New York.

In 1906, Mr. Kelham came to San Francisco. Shortly after his arrival he helped to design the present Palace Hotel. In 1912 he was appointed chief of the Department of Architecture for the Panama-Pacific Exposition.

Ten years later he was honored as Supervising Architect of the University of California, which position he held at the time of his death. During his lifetime he designed the Standard Oil, Shell and Russ Buildings, the San Francisco Public Library and the Federal Reserve Bank.

More recently, Mr. Kelham had been serving as chairman of the Architectural Commission of the 1939 Golden Gate International Exposition. The Commission had but recently completed plans for the design and grouping of the Fair buildings.

Mr. Kelham is survived by his widow, Mrs. Katherine Kelham, and a son, Bruce Kelham.

PERSONAL

Carl F. Gould, of Bebb and Gould, has returned with his family from a four months European trip.

Charles E. Andrew, bridge engineer on the San Francisco-Oakland Bay Bridge, has been appointed manager of maintenance and operation of the bridge. He will continue as bridge engineer also until the interurban transportation facilities have been installed.

Russell E. Collins, formerly at 3602 Crestmore Avenue, has moved to larger quarters at 3305 Wilshire Boulevard, Los Angeles.

STORE BUILDING

Messrs. Miller and Warneke, Financial Center Building, Oakland, have awarded contracts for the construction of a one story frame store building on Leimert Boulevard, Oakland, for R. Mitchell.

ADDITION TO RECTORY

A four room addition will be built to the St. Peter Martyr rectory in Pittsburg from plans by Arnold Constable, 580 Market Street, San Francisco.

SOUTHERN CALIFORNIA CHAPTER

As a mark of appreciation of their splendid work the past year, Southern California Chapter, A. I. A., has unanimously re-elected its 1936 board of officers to serve another year. The officers are: Ralph C. Flewelling, president; Eugene Weston, Jr., vice-president; Geo. J. Adams, secretary, and Samuel E. Lunden, treasurer. A. S. Nibecker, Jr., was named a director for the three-year term.

Continuing the series of symposia on architecture and its personalities, Sumner Spaulding at the November 10th meeting, read a paper on the life and work of Stanford White, while H. C. Chambers spoke on the life and work of Henry Bacon.

Certificates of membership in the Chapter were presented to Breo Freeman, J. Robert Harris and Frank A. Vigers, the presentation being made by Carleton M. Winslow.

D. C. Allison reported on the work being done by a committee appointed to select a drawing each week to be published in the Los Angeles Times. It is the intention to use pictures of small houses at first but any work that will pass the committee, which is composed of Mr. Allison, Donald Parkinson and Reginald D. Johnson, will be accepted.

Establishment of a new atelier, sponsored and supervised by Carleton M. Winslow, was announced by Paul Robinson Hunter.

Henry K. Murphy, an architect of New York City and Shanghai and a member of the Institute, gave an interesting account of the work he has done in China and the political situation in that country. He is architectural advisor to the Chinese government.

Following the meeting a forum on "The Producers' Council" was conducted by H. C. Newton.

LE BRUN SCHOLARSHIP COMPETITION

A nationwide competition for the 1937 Le Brun Traveling Scholarship is announced by the New York Chapter of the American Institute of Architects. The scholarship, carrying a stipend of $1,400 will be awarded next spring to a "deserving and meritorious architect or architectural draughtsman, resident anywhere in the United States, to aid him in paying the expenses of a European trip lasting not less than six months".

Nominations must be made by members of the Institute before January 15, according to Oliver Reagan of 101 Park Avenue, New York, chairman of the scholarship committee. The competition problem will be issued on January 16.

Candidates for the scholarship, founded by Pierre L. Le Brun, are required by the deed of gift to be between twenty-three and thirty years of age, and to have practiced architecture for at least three years. The winner of the comeptition will be chosen by a jury of three prominent architects.

COMPETITION

The Treasury Department announces a competition for mural decoration in the post-office of San Pedro, California.

The mural will consist of one panel 41' 9" wide by 6' 9" high with a total approximate area of 294 square feet. The sum of $4,900.00 will be paid for it. The competition is open to any artist of California, Oregon, Washington, Nevada, Idaho and Montana.

Further information may be obtained by writing Mr. Bernard Roufberg, secretary of the committee, Los Angeles Museum, Exposition Park, Los Angeles, California.

Details of the competition and blue prints are on file in the library of the San Francisco Museum of Art.

HOTEL ADDITION

A two story and basement reinforced concrete addition is planned to the Hotel Leamington at 19th and Franklin Streets, Oakland, from plans by F. H. Slocombe, 4127 Piedmont Avenue, Oakland. The addition will provide kitchen, dining room and ball room accommodations.

TOLL PLAZA

Irving F. Morrow has completed working drawings for a toll plaza and administration buildings at the San Francisco approach to the new Golden Gate Bridge. Bids have been taken and the work is expected to entail an expenditure of approximately $160,000.

OAKLAND STORE BUILDING

Plans have been completed by Messrs. Kent and Hass, 525 Market Street, San Francisco, for four stores to be built on Foothill Boulevard, Oakland, for A. C. Oppenheimer. Construction will be of steel, tile and plate glass.

CHURCH BUILDING, TURLOCK

The Baptist Church of Turlock will spend $15,000 on a new frame and stucco edifice from plans by G. N. Hilburn, architect, of Modesto. Mr. Hilburn also has plans for a one story frame and brick warehouse in Modesto for Floden Bros.

OREGON STATE CAPITOL

A contract for the general construction of the new Oregon State Capitol Building from plans by Trobridge and Livingston of New York, has been awarded to Ross B. Hammond, Inc., Spaulding Building, Portland, for $2,006,137.

SAN RAFAEL RESIDENCE

Wm. I. Garren, 233 Post Street, has prepared plans for a $10,000 residence for Louis Becker. The house will be built in San Rafael, Marin County.

President
A. V. Saph
Rialto Building
San Francisco

Vice-President
John J. Gould
Bush and Stockton Sts.
San Francisco

STRUCTURAL ENGINEERS ASSOCIATION
OF NORTHERN CALIFORNIA

Secretary-Treasurer
A. P. Fisher
111 Sutter St.
San Francisco

Directors
Harold Engle
W. Adrian
Jesse Rosenwald

ENGINEERS HEAR COMMITTEE REPORTS

MONTHLY MEETING

The regular monthly meeting of the Structural Engineers Association of Northern California was held Tuesday evening, December 8, at the Engineers' Club, 206 Sansome Street, San Francisco. Yearly business was transacted and reports were heard from the standing committees. Election of two directors to fill the place of John B. Leonard, who was president of the Association during the past two years, and of William H. Popert, director, was an important part of the business session. The hold-over directors are William Adrian, Jesse Rosenwald, and John J. Gould.

The most important reports were those of the membership committee of which Hyman Rosenthal was chairman; legislative committee of which L. H. Nishkian was chairman; structural engineering and research committee of which John J. Gould was chairman; fees committee of which Jesse Rosenwald was chairman; and the professional training committee of which A. V. Saph, Jr., was chairman.

This has been an unusual year for the structral engineering profession with many new activities, and much progress was made in the promotion of structural engineering on the Pacific Coast. This was due principally to the great amount of construction work of bridges, dams, and other structures requiring the maximum of experience and training of the structural engineer.

Beside the reading of reports there was a showing of a motion picture, with sound effects, of the San Francisco-Oakland Bay Bridge through the courtesy of the Columbia Steel Company.

STUDENT EMPLOYMENT PROBLEM

On April 29th, the professional training committee of the Structural Engineers Association, of which A. V. Saph, Jr., is chairman, invited 27 seniors and graduate students of the Colleges of Civil and Structural Engineering of Stanford and the University of California to a special meeting of the Association to discuss employment and the immediate problems of the young engineers.

The committee recently conducted a survey to learn the number of these young engineers who are now employed and to learn the location of their employment. All of the 27 graduates are now taking graduate work or are employed one or more as follows: San Francisco Bay Exposition, Central Valley Project, All American Canal, Pacific Gas & Electric Co., Southern California Gas Co., Monterey Sanitary District, Golden Gate Bridge, California Highway Department, Arizona Highway Department, Bethlehem Steel Co., Moore Dry Dock Co., Soule Steel Co., Vibration Laboratory at Stanford University, post graduate work at Stanford University.

The committee was gratified to find such diversified employment, as the object of the work undertaken by this committee has been to assist in a broad, comprehensive, and thorough training for the young engineer rather than to encourage a narrow and highly specialized development after graduation. It is also complimentary to the two great universities in central California to know that their graduates of the Colleges of Civil and Structural Engineering can readily obtain employment.

ENGINEERS WITH BAY EXPOSITION

The following structural engineers, who are members of the Structural Engineers Association of Northern California, are now employed by the San Francisco Bay Exposition:

W. P. Day, Vice President and Director of Works.

John B. Leonard, Chief of Division, Division of Roads-Bridges-Paving.

Geo. Jennings, Structural Draftsman, Division of Roads-Bridges-Paving.

John J. Gould, Chief of Division, Division of Structural Engineering.

Hyman Rosenthal, Structural Engineer.

J. Albert Paquette, Structural Engineer.

Preston Jones, Structural Engineer.

Fred Hall, Structural Engineer.

Mac D. Perkins, Structural Engineer.

S. C. King, Structural Engineer.

R. F. Lyman, Assistant Structural Engineer.
A. G. Atkinson, Assistant Structural Engineer.
John Cherno, Assistant Structural Engineer.
J. A. Sonne, Junior Structural Engineer.
Harry Vensano, Chief of Division, Division of Estimates and Construction.
John Conzelman, Structural Engineer, Division of Specification.

CHANGES IN STEEL SPECIFICATIONS

The structural engineering and research committee of the Structural Engineers Association of Northern California of which John J. Gould is chairman, now has under consideration the new specifications for the design, fabrication and erection of structural steel for buildings, prepared and adopted on June 24, 1936, by the American Institute of Steel Construction.

When approved by the structural engineering and research committee, the specifications will be presented to the board of directors for approval by the Association.

The principal changes from the previous specifications include:

A new series of allowable unit stresses are recommended which accord in general with a stress basis of 20,000 instead of 18,000 pounds per square inch in tension.

The unit values recommended for other kinds of stress, however, have not always been increased in this proportion, each being determined by a separate consideration of its conditions.

A marked increase is allowed in rivet bearing values, accompanied, however, by more severe requirements as to the minimum end or edge distance in the stressed direction.

The use of composite steel and concrete beams is recognized, and their general requirements are specified.

In the design of plate girders, the recommended basis for computing moment of inertia is changed from net to gross area.

A new and simplified formula is presented for the web crippling of beams.

Copies of the new specifications are now available at the various offices of the American Institute of Steel Construction.

ENGINEERS' CLUB OFFICERS

Officers of the Engineers Club of Los Angeles to serve for the coming year are Don F. Schindler, president; E. W. Rockwell, first vice-president; W. D. Howze, second vice-president; R. C. Flewelling, third vice-president; C. L. Pierce, treasurer; J. F. D. Withrow, secretary. Membership of the club embraces all branches of engineering and architecture.

DESIGN FOR A CLINIC BUILDING
AWARDED FIRST MENTION
Frank W. Trabucco, S.F.A.C.

DESIGN FOR A CLINIC BUILDING
FIRST MENTION PLACED
Mario L. Giadano, S.F.A.C.

TILE BATH AND KITCHEN COMPETITIONS

The Pacific Coast Association of Tile Manufacturers is sponsoring tile bath and tile kitchen competitions with a total of $1,300 in prize money for the two contests. The jury will be composed of Roland E. Coate, H. Roy Kelley, Geo. S. Hunt, Jess Stanton and Clarence A. Tantau.

The professional adviser is Eugene Weston, Jr., of Los Angeles. The competition closes December 18 with judgment promised not later than December 19. Copies of the program may be obtained from the office of the Tile Association, 5410 Wilshire Boulevard, Los Angeles.

Any architect or architectural draftsman who resides in the Western Territory, including California, Oregon, Washington, Idaho, Wyoming, Montana, Nevada, Utah, Arizona and New Mexico, may compete.

Once—the Question was:
What Kind of Pipe

BUT the economy of rust-proof piping . . . absolute freedom from rust-repair and rust-replacement costs . . . is today so generally recognized that:

Now—the Question is:
What Kind of Rust-Proof Pipe

WHERE low first cost is the influencing factor... The American Brass Company offers Anaconda Copper Tubes and Fittings. Due to the development of solder-type fittings which eliminate threading, these lighter-weight copper tubes cost (installed) practically the same as piping that rusts. These modern, low cost, non-rusting tubes are equally suitable for plumbing, heating and air conditioning lines.

Anaconda Brass Pipe

Where standard-weight pipe is required, The American Brass Company has long recommended *Anaconda "85" Red-Brass Pipe* as offering the greatest resistance to corrosion of any water pipe commercially obtainable at moderate cost.

Our Technical Department is prepared to help determine the character of any local water supply, and to recommend the material that will best and most economically meet specific conditions. 36101

Completed joint of Anaconda Copper Tube and Anaconda Solder-Type Fitting. Elimination of threading permits use of lighter-weight pipe.

Cutaway section showing a perfectly cut threaded assembly of Anaconda Brass Pipe with correctly tapered screw fitting.

A Booklet for Every Architect and Engineer

Here is an up-to-the-minute discussion of brass pipe and copper tubes. 28 pages, A. I. A. file size, it touches on water conditions, on different brass alloys, on copper tubes for solder assembly, on applications, on installation procedures. There are condensed tables of sizes and weights, complete flow charts and recommended specifications. Send for it!

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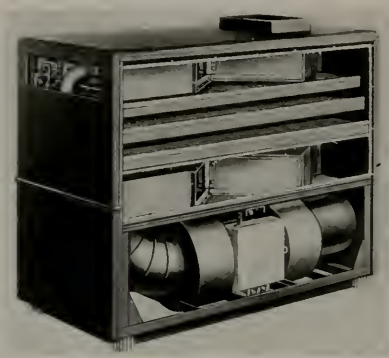
GAS FOR AIR CONDITIONING

With the development of efficient and relatively inexpensive equipment for controlling humidity and temperature, air conditioning has assumed increasing importance throughout the entire country during the past few years. At present, several methods, utilizing different types of agents for removing or adding moisture content to the air heated or cooled, are being successfully employed for both residential and commercial air conditioning. Movement and cleansing of the air are also essential functions of air conditioning apparatus, but humidity and temperature control are



AIR CONDITIONING UNIT FOR DEHUMIDIFYING, USING SILICA GEL AND GAS FUEL

the most important elements in assuring human comfort.

One particular system being widely used at this time employs silica gel and gas fuel for treating the air supply. Silica gel is a white, glass-like porous substance capable of absorbing 40 percent of its weight in moisture. By its use, 75 percent of the moisture in the air may be removed. This is accomplished by drawing the air through beds of silica gel where the moisture is absorbed. The silica gel is then reactivated or dried out by forcing through it the hot products of combustion from a gas-fired burner.

This particular dehumidifier removes moisture from air by the process of physical absorption. The moisture carried in the air in the form of vapor (humidity) is condensed within the pores of silica gel, transforming the latent heat into sensible heat, which is subsequently removed by surface coolers. Humidity in air is thus controlled by this dehumidifier as a direct operation without resort to low temperature cooling. Temperature control is accomplished as a separate and distinct operation.

The dehumidifier consists of a sheet metal cabinet with two sets of silica gel trays, in each of two compartments, with dampers mounted between them on a vertical shaft. Two fans, driven by a single motor, are mounted below and there is a smaller motor for operating the dampers. As the dried air leaves the unit, it is cooled by passing it over cooling coils. While the first set of silica gel beds is absorbing moisture from the air passing through them, the second set is being reactivated. At the end of the cycle an automatic control sets the motor of the vertical shaft in motion and the dampers are thrown over, thereby reversing the cycle.

Air being dehumidified passes through the beds in an upward direction (forced draft), whereas the air used for activating the silica gel passes through it in a downward direction (induced draft). This counterflow results in a self-cleaning action in the beds.

An electric timer automatically shifts the dampers every ten minutes. While one silica gel compartment is absorbing for a ten minute period, the other compartment is being activated for seven minutes and "purged" for three minutes. This purging period is necessary in order to cool the silica gel to the point where it will again absorb water vapor. Purging is accomplished automatically by the elecric timer, which turns off the gas burner and allows unheated air to pass through the gel beds.

The dampers are shifted by a rod and crank arm linkage driven by a small geared head motor. The complete shift, requiring from three to five seconds, is started by a contact on the electric timer and is stopped by a limit switch actuated by the crank arm which breaks the electric circuit when the dampers have moved into their new position.

The air for activation is heated by a gas burner. Products of combustion from the heater are mixed directly with the air drawn in for activation. The gas and air ratio is so adjusted as to give an inlet activation air temperature of approximately 300 deg. when the burner is operating at its rated input.

PROMOTES EXECUTIVE HEADS

Gladding McBean and Co. announce the promotion at Seattle of J. King Shanks to manager, succeeding Raymond R. Smith, who has been named sales director for the Pacific Coast with headquarters at San Francisco. James S. Cole, vice-president, and head of the Portland office, is being transferred to Seattle to manage the terra cotta division. The changes are effective January 1.

Chief officers of the company include: Atholl McBean, San Francisco, president; Joshua Green, Seattle, vice-president of the board of directors; Fred B. Ortman, Los Angeles, executive vice-president, and George P. Fackt, Los Angeles, director of operations. Factories are operated at Seattle, Portland, Spokane, San Francisco, Los Angeles and five other Pacific Coast cities.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.

Brickwork—

Common, $40 to $45 per 1000 laid, (according to class of work).

Face, $75 to $90 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.10 lin. ft.

Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)

Brick Veneer on frame buildings, $ .75 sq. ft.

Common f.o.b. cars, $14.00 job cartage.
Face, f.o.b. cars, $45.00 to $50.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 84.00 per M
4x12x12 in.	94.50 per M
6x12x12 in.	126.00 per M
8x12x12 in.	225.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots.

8x12x5½	$ 94.50
6x12x5½	73.50

Discount 5%.

Composition Floors—18c to 35c per sq. ft. In large quantities, 16c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Concrete Work (material at San Francisco bunkers)—Quotations below 2000 lbs. to the ton. $2.00 delivered.

No. 3 rock, at bunkers	$1.80 per ton
No. 4 rock, at bunkers	1.75 per ton
Elliott top gravel, at bunkers	2.10 per ton
Washed gravel, at bunkers	2.10 per ton
Elliott top gravel, at bunkers	2.10 per ton
City gravel, at bunkers	1.75 per ton
River sand, at bunkers	1.80 per ton
Delivered bank sand	1.20 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beech (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.

Cement, 2.50 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $3.25 per bbl.
Cement (f.o.b. Job, Oak.) $3.25 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Calaveras White ..... $6.00 per bbl.
Medusa White ..... $8.00 per bbl.
Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
4½ inch Concrete Basement floor ..... 14½c to 16c per sq. ft.
2-inch rat-proofing ..... 7½c per sq. ft.
Concrete Steps ..... $1.50 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $7.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $85.00 per balcony, average.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 35c per sq. foot
Obscure glass, 26c square foot.

Note—Add extra for setting

Heating—

Average, $1.90 per sq. ft. of radiation, according to conditions.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site).

No. 1 common	$34.00 per M
No. 2 common	29.00 per M
Selection O. P. common	39.00 per M
2x4 No. 3 form lumber	24.00 per M
1x4 No. 2 flooring VG	65.00 per M
1x4 No. 3 flooring VG	55.00 per M
1x6 No. 2 flooring VG	65.00 per M
1¼x4 and 6, No. 2 flooring	70.00 per M

Slash grain—

1x4 No. 2 flooring	$50.00 per M
1x4 No. 3 flooring	40.00 per M
No. 1 common run T. & G.	35.00 per M
Lath	8.00 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.10 per bdle.
Redwood, No. 2	.90 per bdle.
Red Cedar	1.00 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$120.00 M ft		
1 1-16x2¼" T & G Maple	132.00 M ft		
⅞x3½ sq. edge Maple	140.00 M ft.		
	13-16x2¼" T&G	⅞x2" T&G	5-16x2" Sq.Ed.
Clr. Otd. Oak	$200.00 M	$150.00 M	$180 M
Sel. Otd. Oak	140.00 M	120.00 M	135 M
Clr. Pla. Oak	135.00 M	107.00 M	120 M
Sel. Pla. Oak	120.00 M	88.00 M	107 M
Clear Maple	140.00 M	100.00 M	
Laying & Finishing	13c ft.	11 ft.	10 ft.

Wage—Floor layers, $7.50 per day.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, 500 ft. roll	5.00
Brownskin Pro-tect-a-mat, 1000 ft. roll	10.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft

Sash weights cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45 per ton.

Millwork—

O. P. $110.00 per 1000. R. W., $115.00 per 1000 (delivered).

Double hung box window frames, average with trim, $6.50 and up, each.

Doors, including trim (single panel, 1¾ in. Oregon pine) $8.00 and up, each.

Doors, including trim (five panel, 1¾ in. Oregon pine) $6.50 each.

Screen doors, $4.00 each.

Patent screen windows, 25c a sq. ft.

Cases for kitchen pantries seven ft. high per lineal ft., $6.50 each.

Dining room cases, $7.00 per lineal foot.

Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.

For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work ..... 35c per yard
Three-coat work ..... 45c per yard
Cold Water Painting ..... 12c per yard
Whitewashing ..... 4c per yard
Turpentine, 80c per gal., in cans and 75c per gal. in drums.
Raw Linseed Oil—80c gal. in bbls.
Boiled Linseed Oil—85c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lbs. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net. wt. 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots 13c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch ..... $1.00 lineal foot
8-inch ..... 1.50 lineal foot
10-inch ..... 1.75 lineal foot
12-inch ..... 2.00 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.75
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	$1.00
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.30
Ceilings with ¾ hat roll channels metal lath	.75
Ceilings with ¾ hat roll channels metal lath plastered	1.75
Shingle partition ¾ channel lath 1 side	.85
Single partition ¾ channel lath 2 sides 2 inches thick	2.75
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	3.00

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.20
2 coats Celaveras cement, brick or concrete wall	1.35
3 coats cement finish, No. 18 gauge wire mesh	1.50
3 coats Celaveras finish, No. 18 gauge wire mesh	2.00

Wood lath, $7.50 per 1000.
2.5-lb. metal lath (dipped) ..... .17
2.5-lb. metal lath (galvanized) ..... .20
3.4-lb. metal lath (dipped) ..... .22
3.4-lb. metal lath (galvanized) ..... .28
¾-inch hat roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $19.50 ton.
Plasterers Wage Scale ..... $1.25 per hour
Lathers Wage Scale ..... 1.25 per hour
Hod Carriers Wage Scale ..... 1.10 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $65.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $6.50 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.00 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 to $60.00 per sq. laid according to color and thickness.

Sheet Metal—

Windows—Metal, $2.00 a sq. foot.
Fire doors (average), including hardware $2.00 per sq. ft.

Skylights—

Copper, 90c sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$110 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $80 to $90 per ton cost of steel; average building, $95.00.

Steel Reinforcing—

$100.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00, Boise $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, canter and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, Etc.—(See Dealers).
Asphalt Tile—18c to 28c per sq. ft. installed.

SAN FRANCISCO BUILDING TRADES WAGE SCALE

Recommended by the Impartial Wage Board, June 18, 1936. Effective July 1, 1936

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein. This scale applies only to work on buildings and does not include inside or shop workers.

CRAFT	Journeymen Mechanics
Asbestos Workers	$ 8.00
Bricklayers	12.00
Bricklayers' Hodcarriers	8.00
Cabinet Workers (Outside)	9.00
Carpenters	9.00
Cement Finishers	9.00
Cork Insulation Workers	9.00
Electrical Workers	10.00
Electrical Fixture Hangers	8.00
Elevator Constructors	10.40
Engineers, Portable and Hoisting	9.00
Glass Workers (all classifications)	8.50
Hardwood Floormen	9.00
Housesmiths, Architectural Iron (outside)	9.00
Housesmiths, Reinforced Concrete, or Rodmen	9.00
Iron Workers (Bridge and Structural)	11.00
Iron Workers (Hoisting Engineers)	11.00
Laborers (six-day week)	$ 5.50
Lathers, Channel Iron	10.00
Lathers, all others	9.00
Marble Setters	10.00
Millwrights	9.00
Mosaic and Terrazzo Workers (outside)	9.00
Painters	9.00
Painters, Varnishers and Polishers (outside)	9.00
Pile Drivers and Wharf Builders	9.00
Pile Drivers Engineers	10.00
Plasterers	12.00
Plasterers' Hodcarriers	8.00
Plumbers	10.00
Roofers (all classifications)	8.00
Sheet Metal Workers	9.00
Sprinkler Fitters	10.00
Steam Fitters	10.00
Stair Builders	9.00
Stone Cutters, Soft and Granite	9.00
Stone Setters, Soft and Granite	12.00
Stone Derrickmen	9.00
Tile Setters	10.00
Tile, Cork and Rubber	9.00
Welders, Structural Steel Frame on Buildings	11.00
Welders, All Others on Buildings	9.00
Dump Truck Drivers, 2 yards or less	6.00
Dump Truck Drivers, 3 yards	6.50
Dump Truck Drivers, 4 yards	7.00
Dump Truck Drivers, 5 yards	7.00
Dump Truck Drivers, 6 yards	7.50
Truck Drivers of Concrete Mixer Trucks:	
2 yards or less	6.50
3 yards	7.00
4 yards	7.50
5 yards	7.50
6 yards	8.00

GENERAL WORKING CONDITIONS

1. Eight hours should constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period should be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours e day, on Monday to Friday, inclusive, should constitute a week's work, except for building laborers.
5. The wages set forth herein should be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs except for intra-city fares should be paid by contractor.
8. Traveling time in excess of one hour each way should be paid for at straight time rates.
9. Overtime should be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter should be paid double time. Saturdays (except for Laborers), Sundays and Holidays from 12 midnight of the preceding day, should be paid double time. Irrespective of starting time, overtime for Cement Finishers should not commence until after eight hours of work, except that after 12 midnight overtime for cement finishers should be paid at the rate of time and one-half for the first four hours and double time thereafter. Shift work for cement workers should be subject to the provisions of paragraph 11.
10. On Saturday Laborers should be paid straight time up to eight hours. Overtime rates should be paid as specified in paragraph 9.
11. Where two shifts are worked in any twenty-four hours, shift time should be straight time. Where three shifts are worked, eight hours' pay should be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, should be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men then reporting for work should work at straight time. Any work performed on such jobs after midnight should be paid time and one-half up to four hours of overtime and double time thereafter.
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided should be entitled to two hours' pay.
16. This award should be effective in the City and County of San Francisco.

FICTITIOUS NAME IS LEGAL

As there is no provision against the use of a fictitious name in the California Act Regulating the Practice of Architecture, it is not illegal for surviving members of a partnership to continue using the firm name although one or more of the original partners may be deceased, it is stated in an opinion by Attorney General U. S. Webb, replying to an inquiry by G. Stanley Wilson, secretary of the State Board of Architectural Examiners.

In the case cited Smith & Jones are certified architects, surviving in the firm of Smith, Brown and Jones, and are continuing their business as partners, practicing under the old firm name.

Mr. Webb states:

"The firm name as used by them may perhaps be considered a fictitious name, as it does not accurately state the members of the present firm.

"The act regulating the practice of architecture, unlike statutes regulating other professions, does not specifically forbid practicing or advertising under a fictitious name. The term 'dishonest practice' is not defined in the act and has not been construed by the courts."

In another case cited by Mr. Wilson an individual succeeding to the records and library of a deceased architect continues to carry on practice in the name of his predecessor using the name on office stationery, telephone listings, etc.

In this instance, Mr. Webb states:

"According to your letter, this person, although certified as an architect, is now advertising his own business under the name of the deceased person, and 'continues to carry the business on under the name of the deceased architect and advertise the name of said deceased architect both in telephone directory, on office stationery and advertise the name of said deceased in many ways, giving the impression of still practicing architecture.'

"The statement that this party 'continues to carry the business on under the name of the deceased architect' is a conclusion which, unsupported by an account of specific acts, is not a sufficient basis for me to determine whether the party is engaged in dishonest practice.

"While the kind of advertising done by this person is not expressly forbidden by the act, such advertising does, nevertheless, misrepresent to the public the identity of the person who carries on the business. Such advertising, in my opinion, has a tendency to promote and facilitate fraud in the practice of architecture and may well be considered 'dishonest practice' within the meaning of Section 8 of the act."

OREGON TOWN RESIDENCES

Plans for residential construction in various Oregon towns are engaging the attention of Glenn Stanton, Railway Exchange Building, Portland.

THE SILICOSIS PROBLEM

The State Assembly Committee authorized by the Legislature to investigate the problem of silicosis met in the State Building, San Francisco, on Tuesday, November 10, 1936.

Commissioner Frank C. MacDonald reported to the Committee concerning the law and the safety program inaugurated under his supervision for the purpose of protecting employees in California from hazardous exposure to dusts, fumes, vapors and gases.

Daniel W. Burbank, attorney for the California Inspection Rating Bureau, testifying for and on behalf of the insurance companies in California who carry workmen's compensation insurance, made the following statement:

"I represent the California Inspection Rating Bureau, composed of the carriers of workmen's compensation in the State of California. We are marking time on the silicosis matter and are very, very active on certain other aspects. We are marking time from the standpoint of suggesting legislation. We will have no suggestions to make to you—have none now and will make none at the coming Legislature. We are, on the other hand, exceedingly active from the standpoint of silicosis in our Safety and Engineering and Prevention Departments. Our aims are exactly those of the Industrial Accident Commission—the insurance carriers' aims are those of the Industrial Accident Commission, and I can say all right-minded employers have exactly in mind what Mr. MacDonald stated so well was the primary purpose of workmen's compensation, which is to prevent disease and to permit workmen to be employed under healthful conditions. We have a large staff of inspectors and are constantly working to devise ways of avoiding this risk to employees. Under the scheme of rates set up, it is worth while to an employer to participate and cooperate, and I can also say that Mr. MacDonald is 100 per cent correct in so far as our experience goes in saying that the employers have cooperated. I think you, Mr. Chairman, very aptly said a moment ago that the legislation suggested last season and perhaps the controversy over rates, while it was distasteful, nevertheless served a useful purpose by the publicity and argument that went on, in waking up the employers of the State. I wish to say in addition simply this, that we applaud and approve Mr. MacDonald's premise. His opening statement was very splendid and very fair, and while the Workmen's Compensation Act gives the Industrial Accident Commission ample police power, yet it is absolutely unfair of the State to expect them to discharge those duties and to police industries, as industry must be policed and inspected and educated and advised, as they so well do, unless they have adequate help to do it. This is fundamental, but the fact is they haven't had it and the workmen of the State are suffering on account of it through no fault of the Commission, which is entirely competent to direct that aid if the Legislature will give Mr. MacDonald the program he has outlined here, and it will be the most remunerative expenditure of money, I think Mr. MacDonald will agree, that the State could possibly make. I applaud and approve his program and I am sure that we meet on a common ground; that all employers and their insurance carriers and everyone who does the right thing in this regard will agree, and I only hope that some concerted action to bring this to the attention of the Legislature will be taken."

ERNST KRONER BUSY

Ernst Kroner, architect, is busy preparing plans for commercial and residential buildings. His office is at 1304 S. E. Pine street, Portland, Ore.

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BOOK REVIEWS

By Edgar N Kierulff

THE LESSON OF JAPANESE ARCHITECTURE—Author Jiro Harada—Edited by C. G. Holme.—Publishers: The Studio Publications Inc., 381 Fourth Ave., New York. Price $10.00.

This book on Japanese architecture is not a history of architecture but is essentially a pictorial presentation of some of the finest examples of the buildings of Japan, both monumental and domestic. The photography both in its composition and reproduction is of the highest quality.

The main divisions of the book are as follows—Introduction: The lesson of Japanese Architecture, by the editor—A Short Historical Survey—Historic Japanese Buildings—General Observations—The Japanese House of Today—The Exterior and The Interior.

The functional and logical character of Japanese design as applied to the art of building and the garden are here strikingly illustrated and should prove to be a valuable source of inspiration to the modernist as well as those interested in the traditional styles.

The entire volume has been compiled from the point of view of an analysis of architectural design and should consequently prove to be an invaluable addition to the architect's library.

MANUFACTURERS' DATA WANTED

Sacramento, October 26, 1936

Editor The Architect & Engineer,
San Francisco, California:

This Division is anxious to obtain current data from manufacturers on general building materials and equipment, especially that pertaining to schools. Would it be possible to place a notice in your publication that the Division of Schoolhouse Planning, State Department of Education, Sacramento, California, would like to receive such data from manufacturers?

Very truly yours,
DIVISION OF SCHOOLHOUSE PLANNING
By Doyt Early, Architect.

BIRTHDAY ANNIVERSARY

Ambrose J. Russell, pioneer architect of Tacoma, celebrated his 79th birthday on October 15. With Mrs. Russell he also observed his 45th wedding anniversary on October 28 at their home near American Lake.

Mr. Russell is a member of the A. I. A., and honorary permanent secretary of the Tacoma Society of Architects. His present partners are Gaston C. Lance and Irwin E. Muri, 319 So. 7th street, Tacoma.

DALMO ANNOUNCES NEW PRODUCTS

Keeping in step with progress in the Bay district, the Dalmo Manufacturing Company, with plant and headquarters at 511 Harrison Street, San Francisco, announces several important additions to its line of specialty products.

The Dalmo Sales Corporation, a division of Dalmo Manufacturing, is now offering the Hauser window, supplementing it with Simplex and Dalmo windows. According to A. M. Karstensen, general sales manager, the same precision methods of manufacturing that have made the sale of Simplex and Dalmo windows outstanding, will be followed in the volume production anticipated for the Hauser fixture.

The Hauser window needs no introduction as it has been on the market and in use since 1912. The name Hauser stands for pioneering in the development of this style of window sash control.

Carl Hauser has joined the Dalmo Sales Corporation to handle the Hauser line.

Dalmo Sales Corporation further announces the establishment of a branch factory equipped to fabricate two other new specialties.

The fabricating of bakelite sheets is highly specialized and for the position of general superintendent in charge of this work Dalmo has secured the services of R. S. Lundberg, formerly connected with the Westinghouse Corporation.

Mr. Lundberg has also brought to Pacific Coast users a method of cementing metals to various types of cores. This system of fabricating is known by the trade name of Dalmoloid and is offered for exclusive sale by the Dalmo Sales Corporation. Shapes of all kinds can be covered with all types of metals such as chromium, bright or satin finished, monel, aluminum, stainless steel, etc. Metals when mounted on flat surfaces offer a splendid background for decorative sandblasting.

LEIPZIG TRADE FAIR

The next Leipzig Trade Fair will be held from February 28th to March 8th, 1937, inclusive, maintaining its unbroken record through seven centuries. The general pickup in world trade is shown by the 8,000 exhibits gathered from twenty-six of the leading producing countries, including the United States. It is expected that the business turnover of the Fair will better its average record of $400,000,000 exclusive of reorders. The approaching Fair will be the 1977th session of the historic exchange which is much the oldest as it is the largest world market.

NEW PORTLAND ARCHITECT

D. W. Edmundson, Concord Building, Portland, has been given a certificate to practice architecture by the Oregon State Board of Architectural Examiners. He has had eight years experience as a draftsman, mostly with C. N. Freeman and Grand Rapids store equipment concerns.

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for the editorial staff of Sunset Magazine, San Francisco. Requirements: (1) an enthusiastic interest in the architecture, planning, equipment, and development of the better type individual home; (2) sound technical knowledge and taste in this field through architectural training or otherwise; (3) journalistic talent and news sense demonstrated in newspaper, magazine or advertising work; (4) freedom to travel. Desirable: (1) photographic skill; (2) some familiarity with the Pacific Coast. Make application in writing **only**, and state fully (1) ability to meet above requirements; (2) family background and education; (3) age; (4) salary requirements. **Do not** send any material which must be returned. Address L. W. Lane, Publisher, 576 Sacramento Street, San Francisco.

1937 AUTO LICENSE PLATES

Postcard notices to 2,400,000 owners of motor vehicles in California, notifying them of the amount of fees they will have to pay for 1937 license plates, are being prepared at the rate of 50,000 a day, it is announced by Registrar of Vehicles Howard E. Deems. Renewal will start January 2 and Deems requested the public not to attempt to get plates until that time.

The cards will show the fee for license plates and the amount of the motor vehicle license fee, which takes the place of city and county personal property taxes, Deems explained. They will not be placed in the postoffice until December 26, to avoid the Christmas rush of mail.

"The public is especially requested not to attempt to secure 1937 licenses before January 2", the Registrar said. Certificates mailed in without the correct fees will be returned.

MARIO CORBETT BUSY

New work in the office of Mario Corbett, Benjamin Franklin Hotel, San Mateo, includes a $10,000 residence for Robert W. Gates in the Burlingame Hill Tract, and an $8,000 house for Michel Marculescue at Hillsborough Oaks, San Mateo County.

STORE AND RESIDENCE

The office of W. R. Yelland, Oakland, has completed plans for a $25,000 store building for O. Pall at Marysville. Construction will be of brick. The same architect is at work on preliminary drawings for a $10,000 country house at Orinda.

PORTLAND ARCHITECT INJURED

Clifford E. Clausen, architect, Public Service Building, Portland, was injured in an automobile stage collision on Oct. 31 at S. E. 17th Ave. and Holgate Street, Portland. He was taken to St. Vincent Hospital, suffering from head and internal injuries.

RICHMOND OFFICE BUILDING

J. W. Plachek, architect of Berkeley, has completed plans and awarded a contract for a one story frame and stucco office building in Richmond for the California Spray Chemical Company, 2082 Center Street, Berkeley. The improvement will cost $25,000.

FAIR OAKS SCHOOL

Chas. F. Dean, architect of Sacramento, has completed plans and construction will go forward at once for a three class room addition to the Orangevale grammar school at Fair Oaks, a suburb of Sacramento.

MEDICO BUILDING

A physician's office building will be built at Fourteenth Street and Santa Clara Avenue, San Jose, for J. Tuggle. The architect is Chas. S. McKenzie. The building will be two stories of brick construction.

WINNER OF FAIR COMPETITION

Awards of the judges in the architectural contest for the design of a typical building for the New York World's Fair of 1939 have been made public.

The announcement discloses that the corporation, owing to questions of eligibility and collaboration that arose after it had indicated its preferences, made no award of the listed First Prize as such. Instead, it decided to recognize "the most meritorious design" and to present a cash consideration to its creator, George Lyman Paine, Jr., of New York City.

The circumstances governing the decision arose from the fact that after the jury of awards had selected Mr. Paine's design as deserving of First Prize, and had established the creator's identity by the opening of a correspondingly numbered and sealed envelope, Mr. Paine disclosed that his collaborator was an employee of the Fair corporation assigned to the board of design.

It was also ascertained in checking on eligibility that Mr. Paine, through failure to pay the annual $2.00 registration fee, was not on the 1936 list of registered architects.

The jury ruled that the other awards should be made in the regular order. The second prize of $750.00 was accorded Peter Copeland of New York and the third prize of $500.00 went to Perry Coke Smith of Norwalk, Conn.

In addition to the three major prizes, the jury awarded honorable mentions of $100.00 each to 20 designs of the 356 entries submitted by architects from metropolitan New York.

The meritorious design submitted by Mr. Paine was done in pale gold and grey-blue to show an unusual exhibit building without conventional or symmetrical niche for entry-way and having an aisle, or circulatory, wending by curves through the entire structure. The designers intent, apparently, was to lead the spectator along the curved way by the constantly changing nature of the scene and at no time to leave him overwhelmed by "too much to be seen".

DEL MONTE EXHIBIT

One of the several attractive exhibits at the California Retail Lumbermen's convention held recently at Del Monte, was that of The Paraffine Companies, Inc.

The entire background of this display was made of Insulite insulation board products and Hard-Board products, for which The Paraffine Companies, Inc. are Pacific Coast distributors.

According to H. S. Cheney, the Insulite Company's Pacific Coast sales manager and several prominent officials of the Paraffine Companies' organization, Insulite products are rapidly gaining favor with California architects. The explanation given is that they

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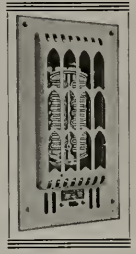

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NORTHERN CALIFORNIA CHAPTER

The monthly meeting of Northern California Chapter was held at the Germain Restaurant, San Francisco, at 6:30 P.M., Tuesday, Nov. 24.

The following were present: John Knox Ballantine, Jr., Morris M. Bruce, Will G. Corlett, Albert J. Evers, Wm. B. Farlow, Edward L. Frick, Andrew T. Hass, Thomas J. Kent, George R. Klinkhardt, Charles F. Masten, James H. Mitchell, Irving F. Morrow, Gwynn Officer, Warren C. Perry, Wilbur D. Peugh, C. J. Ryland, Ernest E. Weihe.

The meeting was conducted by Will G. Corlett, president.

Minutes of the previous meeting were approved as published.

It was moved and carried that $25 be allowed Mr. Bakewell to cover the expense of drawings in connection with the campaign to prevent billboards along the Bay Bridge approach.

It was announced that Messrs. Ballantine and Hass have been elected to Institute membership.

Ralph A. Tudor, senior engineer for the San Francisco Bay Bridge, was the guest speaker. His close connection with the design and construction of the bridge and its operation since the opening, enabled him to relate many facts about the structure. These were doubly interesting because many were on matters not generally understood by the public.

The talk was based largely on the handling of traffic and the operation and maintenance of the bridge. Technical discussion was avoided, except where the speaker generously replied to the questions of the members.—J.H.M.

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CONCRETE CONTRACTORS TO CONVENE

A nation wide meeting of concrete contractors and concrete products manufactuurers will be held in Chicago January 18, 19 and 20, according to an announcement by the Portland Cement Association.

The most important event of the week will be the first National Concrete Contractors' Conference, featuring a clinic on new ideas in modern construction and sales methods.

Advances in methods of construction and the rapidly increasing building market have made it imperative that contractors keep in step with these developments if they are to meet competition and continue to operate at a profit.

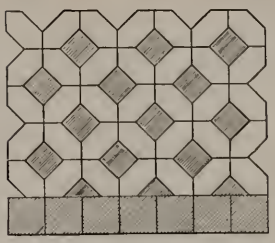
According to reports, the program will cover every phase of contractors' problems. Leading contractors and engineers will reveal the details of modern concrete construction practices. Specialists will analyze the growing market and leaders in the field of advertising and promotion will show where and how contractors can increase their share of the business.

A highlight of the program will be the complete construction and cost story of the Purdue University's concrete house told by Robert E. Schwartz.

Another feature will be movies showing how concrete can be pumped easily and quickly to all parts of a small job. Similarly, innovations in every phase of the contracting business will be discussed. New types of forming, how to use color, and how to finish concrete floors are typical of the other subjects to be presented.

While planned for the concrete contractor, the program should also be of interest to contractors who are not at present specializing in concrete construction, but who wish to inform themselves on the progress made in the industry.

In addition to the National Concrete Contractors' Conference, four other groups of concrete users will hold their conventions simultaneously. They are the National Concrete



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TOMORROW'S HOMES

That much-discussed "house of the future" isn't going to be of a single type or material, as some prophets have implied. Ralph T. Walker, former president of the New York Chapter of the American Institute of Architects, looks ahead and says the modern house may look like this:

"It will have some relation to where it is built. It will generally be unsymmetrical to take advantage of orientation breezes, views and sites. Where wood is plentiful it will be built of wood. Where clay is plentiful it will be built of brick. Where materials have to be brought into a community, houses will be built of the cheapest imported materials. Where steel is necessary it will be used, and also some of the plastics of which we hear so much."

That prospect allows for a good deal of variety. The taste and preferences of individual home-builders may still be expressed. There will be more materials than ever before from which to choose. It should be possible to have well-built and attractive homes at moderate cost. All this assures that a considerable portion of the population will continue to want houses on firm foundations and not merely trailers on wheels.

$20,000,000 POWER PROJECT

Good progress is being made on construction of the Casper-Alcova project in Wyoming, which is now approximately 50% complete.

There are 1,130 men working on construction of this project, which was begun with an allotment of funds by the Public Works Administration.

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A total of 2,596,000 man-hours of labor has been given by the construction to date.

There are three principal features of the project. Seminoe Dam, the largest structure, is being built on the North Platte River, a little more than sixty miles southwest of Casper, Wyoming. It will provide storage for irrigation and power. The Alcova Dam, farther downstream, is a diversion structure which also will serve to reregulate the waters of the stream. The Casper Canal will extend sixty miles from Alcova Dam to serve the 35,000 acres of land to be irrigated near Casper. Work is in progress on each of these features.

The farthest advanced is the Alcova Dam, which was begun by the contractor in August 1935. This work is well ahead of schedule and has provided 892,000 man-hours of labor to date. The Alcova Dam is an earth-fill structure. The impervious earth-fill has been constructed to an elevation of 35 feet above low water and 121 feet above the lowest point of the foundation. A total of 539,000 cubic yards of earth, gravel and rock have been placed. In addition, 211,000 cubic feet of grout have been forced into crevices of the narrow canyon to seal the site. Excavation has totalled 195,000 cubic yards for the dam foundation and the stripping of gravel deposits. Spillway excavation is in progress and 14,000 cubic yards of earth and 65,000 cubic yards of rock have been removed.

About 320 men are employed on Alcova Dam. Work will proceed at full speed until freezing weather. This winter the excavation work and other operations not affected by extremely cold weather will proceed. The contract calls for completion of the dam by May 18, 1938.

Work was begun on the Seminoe Dam by the contractor in January, 1936. The permanent Government camp has been constructed, a water supply provided and a construction power line, 64 miles long, and a construction road completed. The contract for construction of the dam it-

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self is 12.3% complete. The spillway tunnel, the stripping of the canyon walls and the diversion tunnel are about half done. A total of 445,000 cubic yards of earth and rock have been removed. Preparations have been made to wash and screen the aggregate for the 185,000 cubic yards of concrete which will be required in completion of the dam, and 35,000 cubic yards of aggregate have been dug from the river bed and stock piled at the screening plant. The aggregate will be carried in 32-cubic foot buckets on an overhead tram more than two miles to the mixing plant. The cement will be hauled 37 miles in tank trucks from Parco, Wyoming, the nearest railroad point.

On the work now in progress at Seminoe Dam, a total of 535 men are employed and up to date 925,000 man-hours of labor have been provided. No curtailment of this work is expected this winter. The contractor plans to complete the diversion tunnel; the spillway tunnel which also becomes part of the diversion plan; the excavation for the abutments of the dam, and to continue operations in the tailrace during the winter. The contract calls for completion of Seminoe Dam by March 23, 1939.

Tunnel excavation on the Casper Canal is being carried on by contractors, while the excavation of the earth sections of the canal is under way by Government forces. Work has been completed on 3.6 miles at the head of the canal, including two tunnels, 2,860 feet and 4,420 feet in length, and two reinforced concrete siphons. This work provided 439,000 man-hours of labor. At present, contractors are at work on four additional tunnels, aggregating two miles in length. The portals of three of these have been excavated and 4,000 feet of tunnel driven from the outlet of the longest. The remaining 1,460 feet of this tunnel will be excavated this year. It then will be lined while the others are being driven. These tunnels are 26.3 percent complete and have provided 154,000 man-hours of labor. About

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120 men are working on these tunnels at present.

Fifty-four miles of the Casper Canal and all the laterals will be constructed by force account. Four large excavators are at work now. They are moving dirt at the rate of 300,000 cubic yards a month and 9.8 miles of canal have been completed in excavating, a total of 1,237,500 cubic yards. It is estimated that to complete the canal, excavation of an additional 4,362,500 cubic yards will be necessary. This work has provided 186,000 man-hours of labor. About 100 men will be employed on canal excavation during the winter. Government forces also will construct bridges and similar canal structures, the first of these to be begun next spring.

The Casper-Alcova project will cost about $20,000,000. Seminoe power plant will have an installed capacity of 45,000 horsepower.

MAY PURCHASE P. G. & E. FACILITIES

A proposal that San Francisco issue $43,700,000 in revenue bonds to purchase the San Francisco distribution system of the Pacific Gas & Electric Co. may be placed before voters February 16, 1937, provided action taken by the board of supervisors last month remains unchanged.

The revenue bond proposal is to finance plan 7 under which $39,000,000 would be used to purchase P. G. & E. facilities, the balance to construct the Red Mountain Bar power house, an office, and provide working capital.

At the same time, P. M. Downing, vice-president and general manager of the company, made the statement that the company shortly will reduce electric rates over a wide range of schedules. He denied the reductions have been influenced by the city's plan. This will be the second reduction in a little more than a year, rates having been reduced an average of 10 per cent late in 1935.

Municipal distribution so far has been given precedence by the city over rapid transit. The latter problem, occasioned by traffic shifts due

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Of the Architect and Engineer, published monthly at San Francisco, Calif., for October 1, 1936.

State of California } SS.
City and County of San Francisco }

Before me, a notary public in and for the state and county aforesaid, personally appeared W. J. L. Kieruliff, who, having been duly sworn according to law, deposes and says that he is the Business Manager of The Architect and Engineer, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (if daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

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Publisher, The Architect and Engineer, Inc., 68 Post St., San Francisco, Calif.

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PRINCETON PRIZE

The Princeton prize in architecture for the year 1936-37 has been awarded to Allan C. Johnson, of Brooklyn, New York, as a result of a ten-day competition in architectural design held last April. The winner receives $500 to enable him to spend the academic year 1936-37 in advanced study in the Princeton School of Architecture. He is entitled to residence at the Graduate College, and is exempt from tuition fees.

From over sixty applicants, twenty-five were selected on their records for admission to the competition. Of this number twenty-one submitted drawings in solution of the problem.

The jury consisted of Messrs. W. Pope Barney and Charles Z. Klauder of Philadelphia, representing the profession, and Professors Jean Labatut, Sherley W. Morgan and Martin L. Beck of the Staff of the Princeton School of Architecture.

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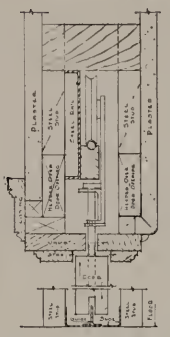

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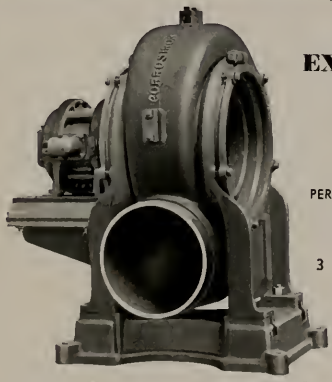

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The following resolution was adopted by the Executive Committee at the recent convention of the State Association of California Architects at Del Monte:

WHEREAS: The State Association of California Architects has an agreement with **The Architect and Engineer** for the collection and dissemination of construction news through a daily service; and

WHEREAS: This service is of paramount value to the Construction Industry; and the Architectural Profession, and

WHEREAS: The activities and news of the profession are published monthly in a Bulletin in said publication, thus greatly facilitating Association business; now, therefore,

BE IT RESOLVED that the State Association of California Architects in its Ninth Annual Convention assembled in Del Monte, California, on October 16 and 17, 1936, does commend **The Architect and Engineer** for the splendid service they are rendering to the Building Industry and to the Profession, and

BE IT FURTHER RESOLVED, that we pledge to them our individual and collective support in providing them with advance information on construction projects.

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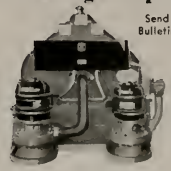

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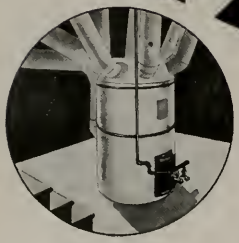

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PERSPECTIVE, GRANT UNION HIGH SCHOOL, NORTH SACRAMENTO, CALIFORNIA
Harry J. Devine, Architect

Frontispiece

BREW KETTLE IN GENERAL BREWING CORPORATION'S PLANT, SAN FRANCISCO
Frederick H. Meyer, Architect

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Notes and Comments

ACCORDING to a recent survey of the Middle Atlantic States by The American Institute of Architects, attempts by architects to enter the small house field have in general met with little success. Where there is a speculative builder's market most of the prospects for small dwellings are committed in advance to a speculative builder, both for financial assistance and advice, the assistance including plans which are naturally more suited to the purposes of the builder than to that of the client.

In Baltimore there is a tendency on the part of the operator contractor, in cooperation with the land owner, to engage architects for partial and, in an increasing number of instances, for full services. While this method may lose in the matter of individuality there is said to be a greater gain in the logical grouping of buildings and in unity of development.

Delaware reports that the attempt to enter the small house field has been a failure. New Jersey architects believe "any scheme to furnish less than full services is a mistake," and they are endeavoring to find out if it is possible for the architect to undertake both the designing and erecting of small buildings. They feel that there is not a sufficient leeway on small work to justify separate services, with profit, for both architect and contractor.

Pittsburgh architects "struggled unsuccessfully" to furnish small house service.

Philadelphia is considering a "Consumers Small House Service" to meet the problem, stressing the need of publicity and direct contact with the Federal Housing Administration, banks and other lending organizations.

The relationships of architects with government, state and city agencies are in general satisfactory and organized cooperation between architects and builders is noticed.

In California the situation is somewhat better. Architects are doing more residence work than for many years, including commissions for small homes, privately owned and speculative. This is a gratifying situation and shows what may be accomplished by closer affiliation with realty, financial and building organizations.

* * *

THE Structural Engineers Association of San Francisco have a live wire in Will Popert, their publicity man. Somebody wisecracked before the annual meeting a few weeks ago that the engineers were not getting much publicity. Proof to the contrary was presented by Mr. Popert when he uncovered a package revealing a veritable broadside of newspaper and magazine clippings about the Association's activities. Not the least impressive was a large sheet of card-board which nearly covered one side of the room, containing page after page of engineering articles published during the year in The Architect and Engineer.

* * *

REMEMBER the days when we laughed at modern furniture? Each year the furniture makers vowed they had made the last of the stuff. It was a fad. People don't invest in novelties. Each year they said these words. Nothwithstanding, each year they have made up more and better modern furniture, and sold it. Furniture must suit the design of the house so the new furniture is definitely in.

Modern homes can be built economically because the contractor can use those building materials for which there is a good source of supply in the community. Brick in brick territory, lumber in timberland sections, cinder blocks, and stucco wherever you want to use them. Everything used in our houses today is produced in the United States. Even the decorative glass and pottery as well as furniture must be All-American

Handling materials in the modern way presents a problem to the contractor because his workmen have been doing things in the old established fashion all their lives

The modern movement has been under way for 15 years, but only the past year or two has it had much popular acceptance in America. In Holland and Germany modern architecture is said to be growing in favor.

* * *

FOR the first time in many years the architectural profession in San Francisco is in complete accord. Any differences that may have prevailed in the past have apparently been adjusted and the various organizations, including the Chapter, the State Association and the Architectural Club, are cooperating one with the other for a common good. This is as it should be. Nothing will help more to put the profession right with the public than this much to be desired atmosphere of harmony and cooperation. And 1937 marches on—may we predict—to undreamed accomplishments.

* * *

NOT a few of our great architects whose work will long be admired and cherished, have passed on in late years — the last one George Kelham — whose most recent achievements were centered in a plan for the Golden Gate International Exposition. Others who were once leaders of their profession in the Bay Region, were Willis Polk, Albert Pissis, William Curlett, and Clinton Day.

* * *

ECONOMIC soundness of reclaiming buildings, which are apparently beyond salvage, is demonstrated again by two 50-year-old Chicago dwellings, altered into small apartments. In a once-fine residential district, the houses were well-built but badly run down, returning a mere $600 yearly rents. After remodeling into 15 studio suites at a cost of $28,000, they were filled promptly the rent roll rising to $11,000. Many fireplaces in the old rooms made a good feature for the new studios, much original millwork also being salvaged. Plumbing, electric wiring and heating systems are of latest types, as are kitchens and bathrooms, the street fronts being united in modern manner.

* * *

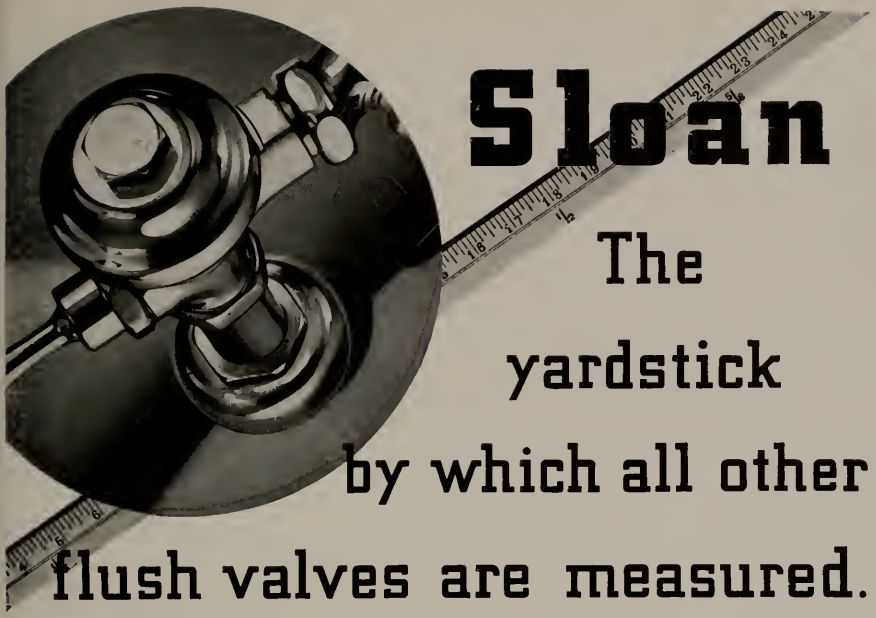
WE have been asked to publicize a suggestion recently proffered by an eastern architect—that some liberally inclined person or persons sponsor a specification contest. Such a contest might be conducted by the A. I. A. which would give it a national scope. The architect who has suggested this competition has been practicing 30 years. He maintains there has been scarcely any improvement to the "horse and buggy" manner and method of writing architectural specifications. The average MASTER specification, he avers, is but a feeble attempt to better the situation. "We need something akin to the machine for the efficient production of good specifications," he says.

The requirements of the contest should burden the contestants as little as possible, and there should be no condition in the contest which would deprive the winner from the privilege of copyright; otherwise, his "brain child" might continue to remain in hiding. The winner of the contest could make work available to the architectural profession through publication, but the authorized use thereof should be confined to the ethical practice of architecture.

* * *

HARRY LUCHT, the alert secretary of the Architects' League of Northern New Jersey, draws attention to a statement in Nina Wilcox Putnam's featured story in the Saturday Evening Post for November 14, which if believed by the Post's two and a half million readers, would not be so good for architects, or draftsmen either. Describing the procedure followed by herself and husband in building their own house in Florida, Mrs. Putnam said: "When we found that

(Please turn to Page 74)



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SLOAN VALVE CO., Chicago

Photo by Swadley

BREW KETTLE IN GENERAL BREWING CORPORATION'S PLANT, SAN FRANCISCO

FREDERICK H. MEYER, ARCHITECT

BUILDINGS FOR GENERAL BREWING CORPORATION, SAN FRANCISCO
Frederick H. Meyer, Architect

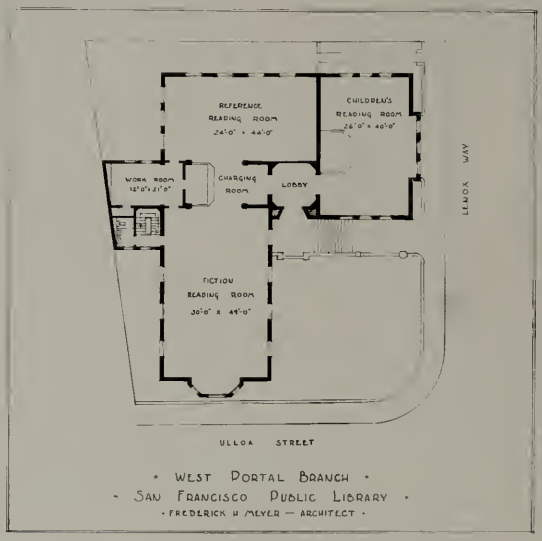
A BREWERY and TWO BRANCH LIBRARIES

THE photograph on the opposite page illustrates one of two brew kettles, recently installed in the new plant of the General Brewing Corporation in San Francisco. Weighing 90,000 pounds in operation this huge copper container holds enough beer to fill approximately 100,000 bottles or 285 barrels. The brewing process takes some two and one half hours when the kettle is emptied and refilled.

Special structural steel bracing was necessary because of the weight of the two kettles. Providing for such an installation is just another example of the wide scope of an architect's practice.

It may seem a far cry from a $1,500,000 brewery to a $50,000 public library building, but that again emphasizes the architect's diversified field. The two branch library buildings illustrated are charming in their simple California style of treatment. Plan, general arrangement and detail are not dissimilar to the Anza Street branch library in San Francisco, designed by John Reid, Jr., and which has proved so satisfactory to both city officials and patrons. The two buildings are constructed of reinforced concrete with hardwood interior finish and asphaltic tile floors.

WEST PORTAL BRANCH LIBRARY, SAN FRANCISCO, CALIFORNIA
Frederick H. Meyer, Architect


REFERENCE READING ROOM 24'-0" x 44'-0"
CHILDREN'S READING ROOM 26'-0" x 40'-0"
WORK ROOM 12'-0" x 21'-0"
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LOBBY
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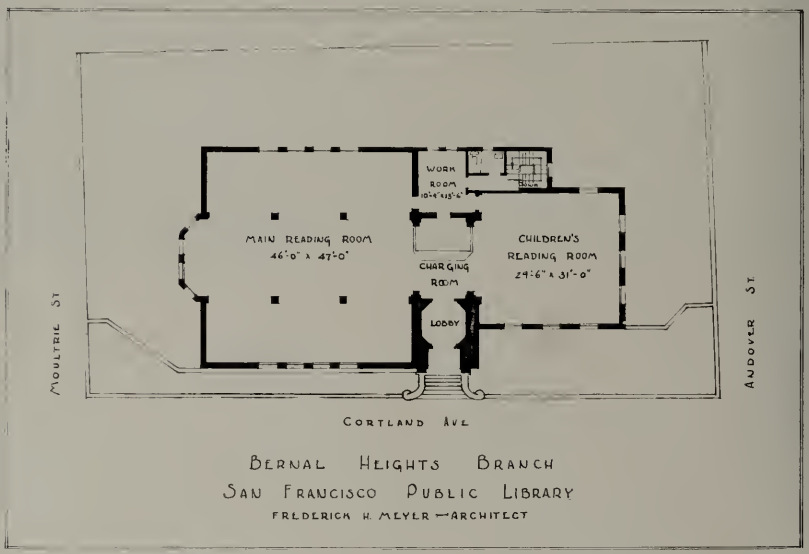
ULLOA STREET
• WEST PORTAL BRANCH •
• SAN FRANCISCO PUBLIC LIBRARY •
• FREDERICK H MEYER — ARCHITECT •

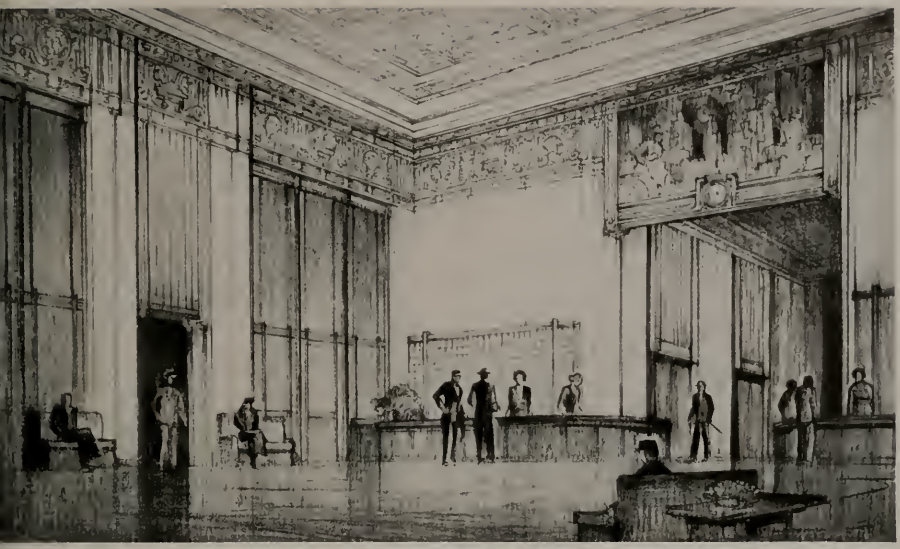
37 BUILDING

In San Francisco $2,500,000 has been appropriated for a new Western Furniture Exchange and Merchandise Mart. The plans are by Architectural Department, Bank of America.

Strategically placed on Market Street, at Tenth, San Francisco, the Mart will contain over a half million square feet of display space. Modern in design, this nine-story reinforced concrete building will occupy a commanding position in the new focal point of traffic created by the two great bridges.

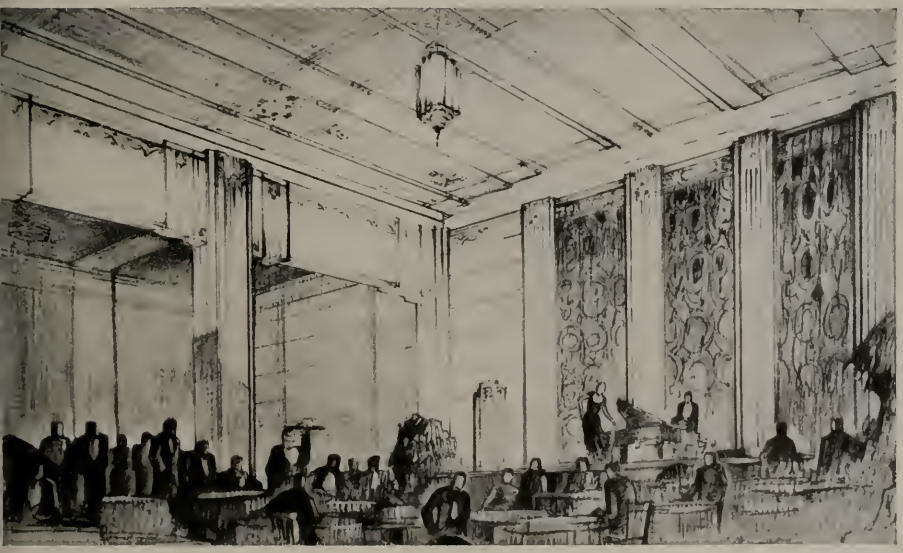
BERNAL HEIGHTS BRANCH LIBRARY, SAN FRANCISCO
Frederick H. Meyer, Architect





MAIN LOBBY OF SAN FRANCISCO MART

Combining architectural beauty with practical utility



AUDITORIUM OF SAN FRANCISCO MART

Seating over 1200 persons

1937 BUILDING

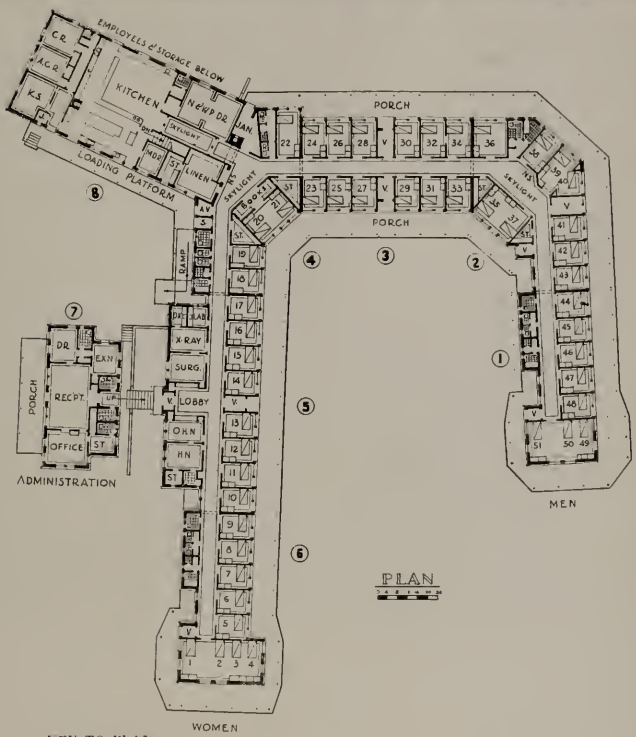
In Los Angeles $500,000 will be expended this year for additions to the country's greatest racing plant at Santa Anita. The architect, Gordon B. Kauffman, has indicated in the above sketch, a rear view of the enlarged grandstand and club house. Seating capacity 100,000.

A 65 bed hospital nearing completion at Long Beach for the Sisters of Charity (St. Mary's) . . . Building is four stories, constructed of reinforced concrete. The architect: I. E. Loveless, Beverly Hills, California

SANITORIUM

ALTADENA, CALIF.

This unique health resort, to be completed this year, has separate accommodations for men and women patients, with administration quarters nicely situated away from the kitchen, storage and employees' wing. The architects: Myron Hunt and H. C. Chambers, Los Angeles.



KEY TO PLAN

AV, ambulance vestibule; ACR, assistant cook's room; CR, cook's room; DK, dark room; DR, doctor's room; EXN, examination room; HN, head nurse; J, janitor's closet; JAN, janitor's room; KS, kitchen storage; LAB, laboratory; M.D.R., men's dining room; N&WRP DR, nurse and women patients doctor; OHN, office of head nurse; ND, nurse's station; S, stretcher; ST, stores; SURG, surgery; V, vestibule.

GRANT UNION HIGH SCHOOL, NORTH SACRAMENTO, CALIFORNIA

HARRY J. DEVINE, ARCHITECT

Photo by Frederick-Burkett

CALIFORNIA JUNIOR HIGH SCHOOL, SACRAMENTO
Harry J. Devine, Architect

RECENT BUILDINGS BY HARRY J. DEVINE

SMALLER CITIES DEVELOP BETTER ARCHITECTURE

By Irving F. Morrow

THE failure of theories and abstract considerations to dovetail neatly with facts is always a keen disappointment — so keen a disappointment that something has to be done. And the course taken is generally the easiest one; namely, to suppress the offending facts.

For instance, our own time is by common consent one of concentration, an era of "bigger and better" what have you. We are taught to focus attention on the center and consider the periphery as insignificant. Do you wish to know what California is doing in architecture? Then visit San Francisco and Los Angeles—(there are doubtless even those who would like to fix upon the latter). The metropolitan centers must exhibit all that is worth while.

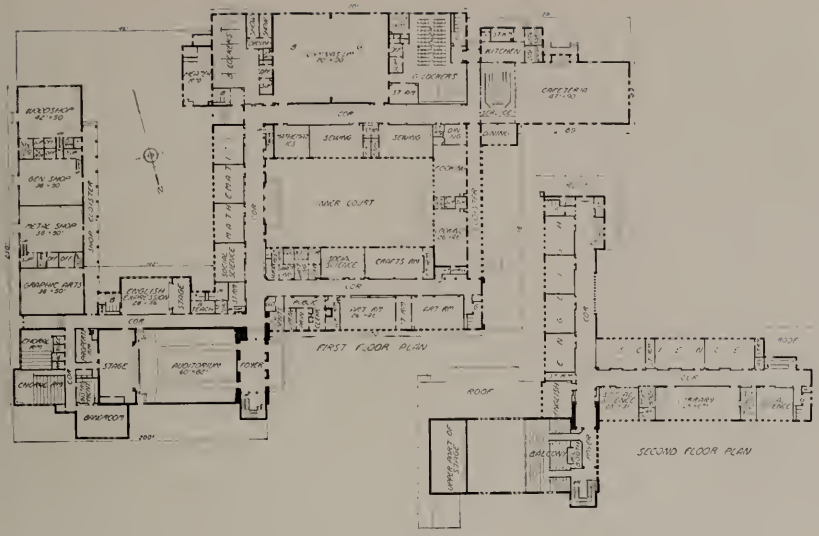
And yet anybody who has been about the State with his eyes open must know that such is not at all the case. Communities of second and even lesser rank are developing architectures of value and distinctiveness.

Sacramento lies in the "sphere of influence" of San Francisco. Well, its architecture must therefore reflect that of the northern metropolis. But it doesn't. It has a character and a quality and a value of its own. In particular, it has a strong tendency to harken back to the Romanesque of northern Italy which is quite absent around San Francisco Bay.

Why? That is another of the irritatingly disorderly aspects of facts. The contemporary theoretician finds that the Sacramento Valley should depend on San Francisco—but doesn't. The future historian will demonstrate how geog-

AIR PLANE VIEW, CALIFORNIA JUNIOR HIGH SCHOOL, SACRAMENTO
Harry J. Devine, Architect

CALIFORNIA JUNIOR HIGH SCHOOL, SACRAMENTO, CALIFORNIA
Harry J. Devine, Architect



FIRST AND SECOND FLOOR PLANS, CALIFORNIA JUNIOR HIGH SCHOOL, SACRAMENTO
Harry J. Devine, Architect

raphy, climate, natural resources,social conditions, and so on, made the architecture of the early twentieth century in the Sacramento Valley inevitably what it is. But of course we know that these influences are not the decisive ones. Being able to see it going on, and knowing the people who are doing it, we know that the reason the Sacramento Valley has the kind of architecture it has, with its particular leaning toward the north Italian Romanesque, is principally because there happen to be working there architects who, for reasons that can never really be explained, like that kind of architecture.

One of these architects active in bestowing upon the regions its particular architectural physiognomy is Harry J. Devine. Mr. Devine has been thinking largely in terms of this Italian Romanesque architecture, which in its extended linear forms is at home in broad, flat spaces, and in its loose organization is appropriate to freely growing and unformalized communities. He senses the unperturbed and confident bulk peculiar to brick-bounded volumes when handled on an ample scale. He enjoys the manipulation of the small masonry units—the simple devices of direction, grouping, offset, corbeling, and the like, which impart interest to brick surfaces and string courses. The play of pattern and toothing with other materials—stone or terra cotta—is congenial. One of the delights of brick architecture is this feeling of close personal contact in the smallest things; each of the numberless contributory elements has been the subject of individual calculation and individual handling.

The concrete buildings derive from a previous preoccupation with brick forms. Here again much of the effect comes from the relation between the surface and the mass. Omission of the ubiquitous smear of plaster and frank retention of the marks left by well-made forms is an asset.

TOWER ENTRANCE, ST. PATRICK'S HOME FOR CHILDREN, SACRAMENTO
HARRY J. DEVINE, ARCHITECT

ST. PATRICK'S HOME FOR CHILDREN, SACRAMENTO
Harry J. Devine, Architect

The schools are in the best California tradition of ample and generous provision for education. Among the most inspiring sights about the State—again not only in the metropolitan centers, but in communities of all sizes and in all localities—are the great school plants which, both by their extent and their architectural importance, bespeak a genuine concern for the welfare of oncoming generations. The schools of the Sacramento region are conspicuous, and these of Mr. Devine's are outstanding in the district.

It is also interesting to note that church building of worth is still going on among us, and that it can leave the purely archaeological and look forward on its own account.

* * *

EDITOR'S NOTES—The recent completion of additions to the California Junior College in Sacramento marks one of Mr. Devine's outstanding achievements in his fifteen years of architectural practice. Leading educators have pronounced this school group the last word in school house design and construction. Nothing has been spared to make this plant equal to any similar grade of school in the country. The equipment, for example, embodies every new facility devised in this modern age for the comfort, health and mind of the student.

All class rooms are arranged to insure good light, windows equipped with awning type fixtures, every room fitted with comfortable chair desks, blackboards, bulletin board, storage cabinet, etc. The library has shelving for 6,000 books and 125 feet of magazine shelving.

There are two assembly rooms, each with a seating capacity of 1,000 in standard opera chairs. The front 300 chairs are equipped

DETAIL OF ENTRANCE, SACRED HEART CHURCH, SACRAMENTO
HARRY J. DEVINE, ARCHITECT

SACRED HEART CHURCH, SACRAMENTO, CALIFORNIA
Harry J. Devine, Architect

on alternate seats with tablet arms. The floors are parabolic with a level area 15 feet wide in front of the stage. Each assembly room is completely equipped with stage apparatus for pageants, motion picture programs, etc. Special attention has been given the acoustical properties of both rooms.

While the year just ended has been a most satisfactory one for Mr. Devine in point of new work, 1937 has exceptional promise. Commissions for this year already in hand include substantial additions to the Weimar Tubercular Sanitarium, bank building for the American Trust Company, a modernization program for the Golden Eagle Hotel in Sacramento, and a reinforced concrete drive-in market and service station in Stockton.

Mr. Devine is president of the State Association of California Architects, secretary of the State Board of Architectural Examiners and a member of the Sacramento City Planning Commission.

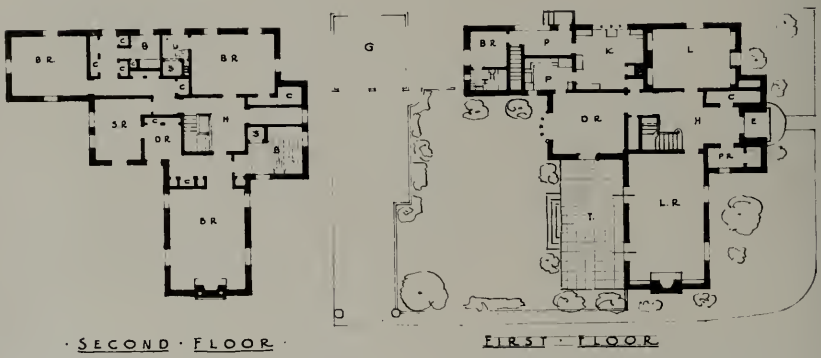
SACRED HEART CHURCH, SACRAMENTO
Harry J. Devine, Architect

ST. JOSEPH'S CHURCH, NORTH SACRAMENTO, CALIFORNIA
Harry J. Devine, Architect

CALLAHAN MEMORIAL, SACRAMENTO, CALIFORNIA
Harry J. Devine, Architect

CHANNEL PIE SHOP, SACRAMENTO, CALIFORNIA
HARRY J. DEVINE, ARCHITECT

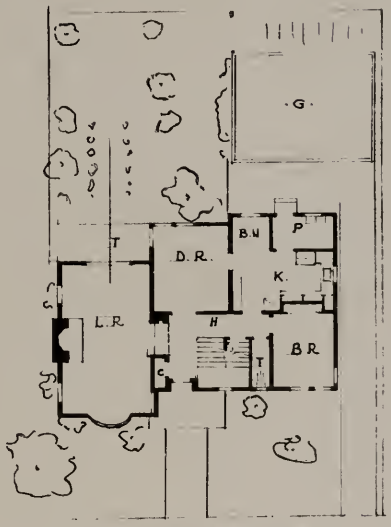
RESIDENCE OF FORMER LIEUT. ALDEN ANDERSON, SACRAMENTO
Harry J. Devine, Architect



PLANS, RESIDENCE FOR FORMER LIEUT. GOVERNOR ALDEN ANDERSON
Harry J. Devine, Architect

RESIDENCE IN "LUCKEY MANOR", SACRAMENTO, CALIFORNIA
Harry J. Devine, Architect

SECOND · FLOOR



FIRST · FLOOR

PLANS, RESIDENCE IN "LUCKEY MANOR", SACRAMENTO, CALIFORNIA
Harry J. Devine, Architect

HOUSES ON THE HILL

PENCIL SKETCH BY C. WESTDAHL HEILBORN
Made as a study for an etching—Size, 10¼" x 12¾"

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LOAN VALUES AND THE BUILDING INDUSTRY

CHEAPER STRUCTURES OFTEN PRODUCE BEST INCOME

By Robert L. Gordon

I SUPPOSE the usual thing to say is that banking and the profession of structural engineering have something in common. To the contrary, however, they have little in common. Finance, from necessity, to all save those who are directly in it, is cold, matter of fact, unromantic. Engineering, on the other hand, is intriguing, constructive, presenting opportunity for idealism, the building of air castles, the dreaming of dreams and the chance to realize those dreams through constructive effort. It is at this point, perhaps, that something in common does arise between us. In the vast majority of cases it is necessary that financing be introduced to assist in the construction.

It has been suggested that I discuss loan value and its relation to obsolescence, depreciation, maintenance, and the various classes of construction, etc. I feel that I should preface my remarks by defining loan value and while an academic definition might be in order, I believe I might best accomplish my purpose by a few examples.

I know of a very large suburban residence, situated some 25 miles from downtown Los Angeles, in which the bathrooms, for example, are fitted with marble from Italy and France. The door knobs and other metal fixtures are of plated gold. Throughout the house the wood paneling is of South American mahogany and other precious and semi-precious woods. Rosewood and bird's eye maple are used to make the bedrooms more beautiful. In contrast, another house of similar size uses oak and pine for its interior woodwork. Better grade though standard plumbing fixtures are used in the bathrooms and kitchen and the house throughout is built with architectural and structural finesse yet without ornate and gaudy embellishments. The latter house cost some thousands of dollars less than the former one. For collateral purposes, the less expensive home is as good a house as the more expensive one. A lending agency must appraise a building from the standpoint of its general utility.

I have in mind an architectural freak, set upon one of Hollywood's noblest hills. The house, a residence of some 1600 square feet, cost about $5.00 a foot to build during times when good normal residential construction costs approximated $3.00 a foot. The financial concern to whom application was made for a loan appraised the house at about $3.25 a foot. True, it had steel sash; it had 6 telephone and 4 radio outlets for its 9 rooms; it had wrought iron and it had hammered brass; it had a bar and a mirror lined powder room; it had a dish washing machine and a stainless steel sink and drainboard; but withal it was only a house. The owner assumed the position that the house couldn't be built for $3.25 a

Editor's Note--An address before the Annual Convention of the Structural Engineers Association of California at Santa Maria, California. Mr. Gordon is Assistant Cashier of the Bank of America National Trust and Savings Association, Los Angeles.

foot. No one argued that point. The lender could only reply that he realized and appreciated that, but if it was acquired under foreclosure he couldn't sell it for as much as it had cost to build, and he might have added what would have been just as true, that the owner himself couldn't sell it for what it cost.

Throughout this discussion I think we should all bear in mind that actual cost may be meaningless so far as loan or collateral value may be concerned. A garage may be class "A" construction or it may be class "C" construction. Nine times out of ten, other things being equal, the class "C" garage will produce as much income as the class "A" garage. There is no reason why it shouldn't. The question naturally asked, then, is, "Why build a class 'A' garage or a class 'A' anything if the cost exceeds building in any other class?" There may be many reasons for doing so, private or public reasons, but from the collateral standpoint there is only one reason and that is income. If a class "A" building, unless made imperative by ordinance or otherwise, will not produce a greater income or a similar income for a longer period of time than a class "B", "C", or "D" building, that class "A" building is not justified.

Loan Values

When any loan application is considered it is viewed from at least two angles, "utility" and "income". It is true that income relates particularly to a commercial building and utility to residential and industrial; nevertheless the questions, "What will it produce?" and "What can it be used for?" are always asked. What we in banking know as a "special purpose" building generally is regarded askance, as its utility is reduced to a minimum. I had occasion to foreclose a set of buildings whose owners had failed and abandoned them. This plant consisted in all of twelve buildings, so constructed and grouped as to form an ideal cannery, served by spur tracks of two transcontinental railroads. In justice to the banker, these buildings had not been taken as original security but had been acquired for a commercial debt which had been previously contracted and which had been defaulted. Shortly after the foreclosure, vandals removed everything removable. The remaining fixtures were sold to private individuals. The plant has been idle for four years. The location and construction were such as to provide utility for only one business—canning. Though the plant may have cost $200,000 and now carries what appraisers know as a "fair value" of $65,000, it has a value for collateral purposes of exactly nothing, as it will produce nothing and cannot be liquidated through sale.

I know of one financial house, which has since failed, which during flush times lent $200,000 on a second lien behind a first lien of $1,000,000 on a large, class "A", limit height store and office building, which cost approximately four millions of dollars to erect. Interest on the first and second liens approximated $78,000 a year. Taxes brought fixed charges, aside from maintenance, to $100,000 a year. With the depression came lower rents and then no rents at all. The building produced enough to pay interest on the first lien only. Taxes were paid by the second lienholder for a time under an agreement with the holder of the first not to foreclose. No interest was paid on the second lien. This situation could not obtain forever and the $200,000 loan eventually was written off as a bad debt. The holder of the first finally foreclosed. The loan value was not there.

I have cited these few examples to illustrate what the lender regards as loan value. I have spoken only of collateral, and have not attempted to analyze the borrower.

There was a time in the history of loan making when a loan based upon real estate was made wholly on the basis of collateral value attached to that real estate. If the law permitted a loan up to 50% of the appraised value and a given building appraised for $100,000, other things being equal, that building was good for a loan of $50,000. No one asked, "What will the building produce?" No special inquiry was made into the financial

responsibility of the borrower, and no study of the financial statement was made. Times have changed. That the loan that the applicant requests can be made on a legally qualifying basis from the standpoint of the adequacy of the collateral is assumed. Today the applicant must qualify, even as he must qualify for an unsecured loan or a loan on stocks and bonds. His statement is studied. His ability to service and liquidate the obligation, either from the returns from the building itself or from his outside personal means, is considered. Even though a loan application may be for only a fraction of 50% of the value of the property offered as collateral, if there are no evident means for its service and ultimate retirement, that loan, in the interest of sound finance, should be denied.

Within the last thirty days there came to my attention such a case. Promoters offered as security two nominally improved city blocks in Hollywood, appraised at over $1,000,000. A loan of $450,000 was requested. Liquidation would have had to come from sale of the property. Income from existing improvements was not adequate to pay interest and taxes and the applicants had comparatively small personal means. The loan was not made.

Income Important

With this general preface, I should like to discuss, in as matter of fact a way as possible, the specific things which your President asked me to cover in this address.

The question was asked, "Does a class 'A' building have a greater loan value than a class 'B', 'C', or 'D' building?" The answer to that question is another question, "Will a class 'A' building produce a proportionately greater income than a class 'B', 'C', or 'D' building?" If it will or if it will produce a similar income over a substantially longer period of time, then its loan value should be greater. Not that at the outset it will command a larger loan but that a smaller loan would be more favorably considered for a longer maturity.

I had occasion last week to visit Riverside County. At March Field many of the homes are built of reinforced concrete. There is a reason for this. Because of climatic conditions a concrete walled house with a full tile roof is more livable and being so commands a larger rent. A class 'D' house of the so-called Monterey type, for example, with low, single-shingled roof and tar paper and plaster walls, without insulation, would be shunned as a bake-oven and naturally would bring nowhere near as much rent as the concrete house. In this case the class "A' house would have a greater loan value.

Consider for a moment public financing of large structures. Bond issues generally are distributed to people who know little of the real collateral back of them. I have often wondered whether the difficulties experienced by certain issues in Southern California, which included many class "B" buildings and perhaps some class "C" buildings, were directly or indirectly attributable to the class of construction or whether to the soundness or unsoundness that characterized their issuance. I am inclined to believe that structural characteristics of the buildings underlying the various issues had little to do with their ill fate. On the other hand, it is academic that a reinforced concrete or structural steel and concrete building is a better building than a brick or frame building and that as such will last longer. Financing of such a building, within limits prescribed by earnings, should command longer maturities at more favorable rates of interest.

Whether fortunately or unfortunately, the time in which we live has produced many changes. We are both the fathers and the children of speed. Less than a generation has brought the ends of the earth as near as a whisper. The things that interested us a half century ago or even a decade ago now melt into comparative insignificance in the light of our present day commonplaces. Luxuries became necessities and then were discarded for ever-new improvements. The new order replaced the old. Today my house, my office, my Pullman, my theater, must be air condi-

tioned. My telephone must be after the French mode. My radio shall be streamlined and shall pick up Siam or Timbuktu with as little effort as it takes to bring in my local stations. My straw mattress must be an inner spring. My hot water heater must be instantaneous. The walls of my house must be insulated against heat and cold. My sub-floors must be tongue and groove planking. My refrigeration must be automatic. In short, gentlemen, what my grandfather had I will not tolerate and what I require my grandfather had never heard of. Such have been the developments in the last generation. The fact that every day brings something new has presented a real problem to builders, to engineers, and to financiers. How am I to know that the building on which I have today approved a loan will, before that loan matures, be antiquated and its value reduced in proportion to the improvements which its neighboring buildings possess? Unfortunately, the structural life of a building is no indication of its commercial life. In Europe, as indeed in other parts of the world, commercial buildings still in use have been standing for several centuries. Conditions in Europe and in the United States perhaps are not comparable for the reason that our entire history consumes a shorter period of time than many European buildings have been in service. Nevertheless, the restless spirit of the American people has, in the 160 years of our national existence, undoubtedly developed more change and desire for change than any period of similar length in the world's history.

While it may be unfortunate, it is none the less so, that people will not retain an old improvement when there is a possibility of getting a new one. The problems of depreciation and obsolescence are themselves the bugaboos of owners and financiers. Every building owner feels that he knows about how long his building will last. At least he knows whether he will depreciate it 2% or 3% or whatever figure annually. Every banker has felt that he has known how long a given building will last for collateral purposes. Since reviewing available data I have concluded two things: First, that the sights of lenders and owners are set far too low, and the sights of renters and buyers are far too high. Consider the following findings of Cecil C. Evers, Chicago real estate authority, as quoted by John A. Zangerle in his book entitled "Principles of Real Estate Appraising".

Rating of Buildings

He presents the following table in which twelve general classes of buildings are rated as to their structural and commercial lives.

Class of Buildings	STRUCTURAL Life in Years	STRUCTURAL Percent of Average Annual Depreciation	COMMERCIAL Life in Years	COMMERCIAL Percent of Average Annual Depreciation
Cheap detached frame residences	30- 40	2.90	25	4.
Good detached frame residences	40- 60	2.10	35	2.90
Ordinary brick residences	50- 75	1.65	40	2.50
Good brick and stone residences	100-150	.83	45	2.20
Frame tenements	25- 35	3.50	27½	3.17
Brick tenements and flats	40- 50	2.25	35	2.90
Good class apartment houses	50- 75	1.66	45	2.20
High class fireproof apartment houses	75-100	1.16	45	2.20
Cheap brick shops and dwellings	40- 50	2.25	40	2.50
Ordinary brick shops and dwellings	50- 75	1.66	45	2.20
Good brick and stone stores and offices	75-100	1.15	45	2.20
High class offices and stores of brick, stone, terra cotta and iron or steel construction.	150	.83	50	2.

Particular attention is directed to the findings that frame tenements with a structural life of from 25 to 35 years have a commercial life of 27½ years. Good detached frame residences have a structural life of from 40 to 60 years and a commercial life of approximately 35 years. Good brick and stone residences have a structural life of from 100 to 150 years with a commercial life of only 45 years. High class fireproof apartment houses, class "A" or even class "B" construction, have a structural life of 75 to 100 years but a commercial life of only 45 years. High class offices and stores of brick, stone, terra cotta and iron or steel construction, have a structural life of 150 years with an actual commercial life of only 50 years.

Preston M. Nolan, of Chicago, emphasizes the necessity of figuring depreciation on the probable commercial rather than the structural life of buildings. This is the procedure which banks necessarily must follow in determining the loan value of real estate. As an

indication of obsolescence of office buildings particularly, Mr. Nolan cites the following examples of lives of Chicago office buildings:

"The Chaplain, 15 stories, 21 years old when taken down; The Continental Bank Building, 28 years; the Rand-McNally Building, 28 years; the Trade Building, 15 years; the Royal Insurance Building, 35 years; the Montock Block, 19 years; the Mallers at Quincy and La Salle, 34 years. Then there was the Old First National Bank Building, the City Hall, and the County Building, all of which the engineer would have shown, had a life of several times that accorded them by Chicago's ruthless and quick-moving spirit of progress." He adds, "It is easy to prove the intrinsic non-existence of a building. Whenever the net earnings of a properly managed property fall below the accepted rate of return for the land alone, the building has ceased to exist, excepting as an incumbrance on the land."

These buildings were not worn out. They were out-moded. They had not depreciated physically 100% but their obsolescence was complete.

The matter of depreciation is a study in itself and while obsolescence constitutes a major part of it the two should be considered separately. In considering a real estate loan, the appraiser is instructed to determine two things: First, "How much is the property worth now?", and, second, "How much would it be worth 5 years or any given period from now, in the event that the loan must be foreclosed and the property taken over by the lender and put on the market for sale?" The elements of appreciation, depreciation, obsolescence, and the economic factors of supply and demand of similar real estate, the possibility of depression or crisis, and literally 101 other minor things, must all be considered.

Depreciation presents one of the most difficult problems in appraising. It has been defined by the Bureau of Internal Revenue as follows:

> "The distribution of the cost of an asset over its useful life, taken in such a manner so that, when the useful life of the asset shall have become exhausted, its cost plus addition, less salvage value, shall have been restored to capital."

There are various methods of figuring depreciation. The annual equal percentage method is that most universally used and is arrived at by dividing the cost, represented by 100%, by the probable life of the building. For example, a building whose probable life is 50 years would be depreciated at 2% a year. The snag that is always encountered is what is the probable life of the building.

The Life of Buildings

Moritz Kahn, of The Albert Kahn Co., Inc., of Detroit, in a lecture delivered before the building management class of Detroit University a few years ago, said:

> "We are generally told that ordinary frame buildings have a life of from 20 to 30 years; that mill constructed buildings with brick walls have a life of 40 years; that structural steel buildings have a life of from 20 to 40 years, depending upon the locality in which they are built; that encased steel frame buildings with masonry walls and fireproof floors have a life of 50 years; and that reinforced concrete buildings have a life of 50 years. In my opinion, these probable lives are too short and should be doubled, especially in the case of the last two groups of buildings.
>
> "If I were asked to prepare a table of the probable life of buildings, I should say that an ordinary frame or timber building, properly maintained, would have a life of 100 years. Steel frame buildings, with masonry walls and fireproof floors (class "A" structures), would have a life of 200 years. And reinforced concrete buildings would also be given a probable life of 200 years. In any event, it is extremely conservative, when preparing a financial statement, to allow a probable life of 75 years for a class 'A' building."

In Southern California, and indeed through-

out the world, construction of larger industrial and commercial buildings has been ever tending toward reinforced concrete. The steel frame building, with masonry walls and fireproof floors, continues in popularity for buildings of a certain type and size. The question of depreciation of buildings of this type, practically speaking from a lending standpoint, is relatively unimportant. Banks, particularly, have more to do with residential property than with commercial or industrial property. In residential construction in Southern California there has developed within the last 15 years and this principally in Los Angeles County, a type of construction which is conducive of rapid depreciation and which, in my opinion, should be righteously shunned by every financier and every reputable builder of homes. I speak of the match box type of house with walls of chicken wire, tar paper and plaster and which at best is nothing more than a shell. A building of this type is old within 10 years.

With the advent of the Federal Housing Administration and its comparatively strict regulations, there has developed some tendency among lay persons toward better construction. I am aware that the requirements have been reluctantly accepted by owners in many cases because of increased cost. On the other hand, I am also aware that the engineering profession would prefer, in most instances, to produce buildings which are thoroughly excellent in every particular. It would seem that this present situation should prove to be an entering wedge for you engineers to educate people generally to the finer standards of better construction. Certainly the average home owner would prefer a better building than not and by being made to understand in what particulars it is better he would be willing to pay for it. I am firmly convinced that a well built house, the value of which is not essentially wrapped up in its income equivalent, will command a greater comparative resale value than a poorly built house.

An example of this came to my attention just last week. I was in San Marino, visiting a so-called model home. I was told that the walls were insulated with a new kind of insulation and I regarded this as quite essential in a district where at times the temperature runs 8 to 12 degrees above the surrounding territory. However, I was not nearly so much impressed with the insulation as I was with the sub-structure of the house. There was a full two foot clearance between floor joist and grade level. A four inch concrete slab covered all earth surfaces and the entire underside of the house, including the concrete slab and the pillars, was whitewashed. The picture which was presented, illuminated as it was by the basement lights, meant more to me than the insulated walls. I properly lingered to listen to the comments of other visitors and almost without exception they were impressed by the appearance of the underside of the house much more than they were by any other single feature of it. A lot has been said about termites. Whether the construction which I have just described is a protection against termites I am not the judge, but everything else being equal between two houses identical otherwise I should have purchased the house which I have described, though the cost were several hundred dollars more. I am sure that many people there felt just the same as I did.

Quake Resistive Buildings

Since the Santa Barbara disaster a few years ago and the Long Beach catastrophe in 1933, California has become earthquake conscious and so-called earthquake proof construction has been introduced. The question has been asked, "What effect has this so-called earthquake construction had upon loan values?" Certain things enter into this consideration which do not always enter into normal consideration of a real estate loan and with which you are not particularly concerned, such as ratio of land value to total value. When a border line case is presented for decision, earthquake proof construction or lack of it may prove to be the deciding factor.

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ARCHITECT PREDICTS BUILDING BOOM

BETTER TIMES AHEAD FOR THE PROFESSION

By Albert J. Evers, Director Sierra-Nevada Division, A.I.A.

BUILDING activity is expanding on the West Coast, and a boom seems to be in the making.

Architects are busy, vacant office space is diminishing, city and county planning are going forward, residential construction is thriving, and the outlook favors a great advance in larger projects. Deterrent factors are the shipping strike and mounting prices. Blighted areas, a report warns, are fast developing into slums.

The building industry has emerged with other business from the doldrums of 1932 and 1933. The volume of work in an architect's office has had a corresponding increase, which is in a measure proportionate to the increment in other business. It is an indication of the trend that the seasonal decline in building is reversed.

The bulk of building activity has been residential and governmental or institutional buildings receiving Federal aid. There has been very little commercial work, but it is encouraging to note a diminishing vacancy percentage in office space and commercial buildings. With residential building providing employment for labor and an outlet for heavy industry, the increasing effect on private construction in business and commercial buildings seems bound to follow.

The next step in recovery would seem to be the complete absorption of available existing space, a modernizing of partially obsolete buildings followed by a great expansion in the business and commercial building field.

The present strike on the waterfront of the entire West Coast is a dampening influence on building activity and the increasing rise in prices may slow down the boom which seems to be in the making. It is remarkable that these deterrents have not yet become markedly evident in depressing business volume, and hence the impetus of the forward movement is shown to be both forceful and vital.

Architects' offices are busy, especially those specializing on residence work, and many architects and draftsmen have been absorbed by governmental agencies and organizations requiring the technical knowledge and skill of the architect. The condition of the profession is therefore tremendously improved and with excellent prospects of an increase in the volume of larger building projects, the real backbone of an economically successful practice.

There has been no slim clearance or group housing work done in this district by governmental agencies, and one of the greatest needs is a demonstration of adequate housing for the lower income groups. The rapid passing of blighted areas into slum condition and the lack of adequate protection of neighborhoods by zoning is becoming more evident as the population continues to increase. Adequate zoning and housing laws with real and uniform enforcement are needed in these Western States to prevent the deplorable slum conditions of some older communities from repetition.

City and county planning are progressing in the far West, notably in California. The real function of planning is not yet fully understood by the citizenship at large but a growing body of intelligent and understanding persons is demanding that adequate technical study be given to the future development of cities and counties. A great field of usefulness is open in this direction to the architect, both by his direct labor and his influence.

Whether or not a building boom is before us, the population of the West is still increasing, business has recovered and a period of at least normal building activity is indicated by all the trends. Architects of the Sierra Nevada District have not yet the volume or quality of practice that was theirs in the "roaring twenties", but they are once more busy and hopeful, with excellent prospects of realization.

Building permit totals reported from fifty-one cities in eight far Western states show an increase of 76.5 per cent for the first ten months of 1936 over the same period of 1935, and an increase of 230.7 per cent over this period of 1934. The actual values of reported permits for these cities for the comparable ten months period are $48,000,000 for 1934; $90,103,000 for 1935 and $158,989,000 for 1936.

The Bank of America's October Index of far Western business activity shows the highest level reached in 63 months, and marks the fifth consecutive month in 1936 in which the Index has gained over the previous month. The Index has likewise soared above the level of 1931 business for the corresponding month.

In San Francisco the General Business Activity Index of the San Francisco Chamber of Commerce for the month of October came within one half of one per cent of penetrating the 1930 level and establishing a new seven year October top.

The September totals of the Federal Housing Administration are reported to show a total of $73,377,003 in loans accepted for insurance in the Sierra Nevada District, and of this amount an average of about 40 per cent is for new construction. These figures show that the volume of new homes built in 1936 may more than double those built in 1935 and be between five and six times the low of 1934.

CURB BUILDING BOOM

Construction Activity Should be Carried Over A Period of Time

ARCHITECTS in 1937 should assert leadership in curbing what is expected to be "the biggest building boom in history", and in spreading construction activity over a longer cycle, declares Ossian P. Ward, Secretary of the Kentucky Chapter of the American Institute of Architects.

"A building boom is always upsetting and unsatisfactory," warns Mr. Ward in a report of architectural progress in 1936 which discusses "Housing a Nation from an Architect's Viewpoint". "A rush of construction creates high prices which in turn cause expensive building, making it impossible for a structure to earn enough revenue to constitute a profitable investment, except perhaps over a very short period. Such a condition always spells grief for some one.

"The prophesy is being freely made that the biggest building boom in history will start this Spring and that prices of labor and materials will go up. There is no doubt but that, barring economic upsets, building construction in 1937 will be of greater volume than in 1936. The greatest increase will probably be in the residential class.

"It is to be hoped, however, that there will be no building boom or any substantial rise in the price of labor or materials except those that are unquestionably too low. If prices go up too sharply building necessarily will be retarded. Architects should use their influence to curb a building boom and spread the activity over a longer cycle.

"If the period of building is to be prolonged, it will be necessary for labor to be sensible and moderate in its demands and actions.

Organized labor in Louisville has recently raised wages in several of the major trades, and other trades will undoubtedly follow suit. It looks as though poor judgment has been used in increasing wages so much at this time, for they are out of proportion to the cost of living now as compared with 1928-1929.

"Up to the present time, the building industry in Louisville has been happy and fortunate in having very few labor disputes or strikes. This situation is primarily due to the fact that Louisville has always been an open shop town. Some of the principal trades such as carpenters and bricklayers have been largely unionized, but they have always been reasonable and fair in their dealings and easy to get along with.

"This happy situation may not continue, as the representatives of organized labor have frankly stated that their objective is to make of Louisville a closed shop town including the unionization of common labor. Architects are not employers of labor, but they should be very much interested in this subject, because it will mean increased cost of building and many more jurisdictional disputes and strikes at the times of greatest activity.

"Architects have perhaps held themselves too much aloof in the discussion of labor matters in the past. Here is another opportunity for them to use their influence in the interests of justice and fair play for all concerned."

"Building conditions generally have been improved by unprecedented activity in the construction of breweries, distilleries, and warehouses following national and state repeal of prohibition laws. Distillery construction, however, is a transient condition and will soon be over. It has been of great benefit to a few architects, brick manufacturers, bricklayers, and to other trades.

"The greatest need of the building industry in the year 1937 and the future, is longer sighted and more coordinated planning. City planning is a step in the right direction, but it should go farther than it does. Commissions should be formed with the cooperation and participation of architects to control the planning of buildings not only of cities but of states.

"There is no hope for beautiful cities, highways, or parks until the planning and supervision of the designing and construction of them is placed under cultured, capable, and intelligent control. The architect naturally should be very prominent in the composition of these committees of control.

"Another field in which the architect should thrust himself more frequently and seriously is that of small houses or housing for the low income group. This constitutes a very difficult and involved problem, but the architect should take more interest in it in spite of inadequate remuneration. The services of architects are gradually becoming more appreciated and sought after, but it is a long up-hill struggle and architects must render aid more generally and generously if they are to obtain the recognition they deserve."

The program of lower interest rates, larger loans, and insured mortgages which the Federal Housing Administration initiated about January 1, 1935, opened up the mortgage loan market for residential construction, Mr. Ward points out.

"Private building in 1934 was almost non-existent," he continues. "Few dwellings were being erected because no money could be borrowed.

"Building construction is now on the upgrade throughout the United States. This is heartening not only to the architects who have starved for six long years but also to all who are engaged in the building industry, and to the business man, worker, and white collar class, for it portends that the elusive thing called prosperity has at last been overtaken.

"But this long overdue prosperity is a sensitive thing and may not be abused with impunity. It is necessary to try to understand and protect it. Many persons claimed during the depression that prosperity would not return until there was a revival in building construction, which sank lower and recovered more slowly than any other branch of industry. Even now, when the employment in the steel mills is 14 per cent above the peak year of 1929, building throughout the country is only 55 per cent of the assumed normal period of 1923 to 1925."

LOAN VALUES AND THE BUILDING INDUSTRY

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Such has been the case many times within my own experience when improvements have been located on known earthquake faults. I should say that reinforced concrete buildings, for example, have made many a loan possible where, with a brick veneer or similar light construction, the loan would have been denied.

Many people have wondered whether the requirements of the Federal Housing Administration, with which you are familiar, are reasonable and practical or whether they are unnecessary and narrow minded. The same people, perhaps, have wondered whether building ordinances or requirements of planning commissions and others have been fair to owners and to builders and whether they have not asked more than prudence and sound judgment would dictate. From the standpoint of a lender I can only feel that we should all be better off if our building requirements were even stricter than they are.

I am inclined to believe that people want too much and want to give too little and that this extends well beyond the realm of design, construction, and finance. There is a law of compensation which says that as we plant so shall we gather. We cannot set turkey eggs if we would hatch humming birds. We cannot paint a Michael Angelo with water colors. We cannot attain the infinite with finite means, nor can we attain the ultimate in construction ideals through log cabin methods. If, through the influence of the Federal Housing Administration or otherwise, people have been led to adopt higher standards of residential or other construction, it would be unfortunate indeed were the construction industry and finance unable to accept the soundness of the new principles. It would seem rather that you and we should combine in a definite effort to promote the continuance of higher construction standards while the opportunity to do so presents itself.

It is my sincere hope that lenders on real estate shall not relapse into the state of mental lethargy that characterized some real estate lending in the past and that the future will bring to construction engineers the opportunity to conceive and produce gems of structural genius that will redound to the everlasting credit of a stable and yet a progressive people.

ARCHITECT - - CONTRACTOR - - OWNER

NEED OF COOPERATION IN SMALL CONSTRUCTION WORK

By Robert H. Orr, A. I. A.

BUILDING operations are so diversified today and there are so many overlapping interests that it seems time we should become cognizant of one anothers view-point. You will probably not agree with all that I shall say and I in turn could hardly accept your view-point believing that it conflicts in some particulars with good practice.

In all building operations there are three fundamental elements to be considered. The Owner, the Architect and the Builder, or perhaps the Owner, the Plans and the Builder. These three have so many ramifications that they merge one with the other and set up combinations in building operations mostly peculiar to small construction contracts.

The Owner and the Builder: The plans may be very inadequate in this case. The owner employs the builder, tells him what he wants and together they work out the problem. In this case there is usually an intimate business relation. The owner knows the contractor, has explicit faith in him and if mistakes are made they are usually mutual. This is the simplest form of construction relations and applies more particularly to very small and repair jobs. On a little more important work it is often quite necessary that preliminary studies be made so a plan has to be drawn. Here the owner makes his own plan or intrusts it to the contractor who also assumes the roll of a draughtsman or designer or employs some one for that purpose and does the building as well. Here an attempt has been made to lay down some fundamental working principles in which the builder assumes and takes on the responsibilities that are amenable to laws and ordinances of the state, county or city and the jurisprudence of the courts if dissatisfaction arises growing out of these relations in which the plans may become very valuable documentary evidence.

Going a step further the whole operation may be grouped under one head:

The Owner, the Designer and the Contractor. If the operation is not for one's own personal use then it is intended to be passed on to others and becomes what is generally known as speculative building. Herein lies a free hand to do as one pleases, except to disobey the general requirements as provided for the health and safety of the occupancy. It is generally understood, I believe, that speculative building implies a skimping of things all along the way, for after all the element of chance enters in and the builder has uppermost in his mind: Can the place be sold? Will it bring a return on the investment and how much? The plans are the simplest that can be drawn. Why should they be more? The makers thereof are the builder or often a junior draftsman who can make fair plans and pretty pictures. The construction is partly worked out on the job. The plans are very inadequate as to detail and if violated no particular harm has been done because it is a more or less cut and fit proposition to do the most with the least expense and gamble the chance of a return in profit. These are the most advertised and the sellers. The investor, no doubt, does not know all the intricacies of sound building construction and therefore buys on sight and circumstances.

Then there is the go-getter, who is **the arch-**

EDITOR'S NOTE—Excerpt from an address on "The Relations Between the Architect, Contractor and Owner, Especially as it Relates to Small Construction Contracts" delivered before Building Contractors Association of Southern California.

itect and contractor. He is the one who persuades that there should be but one responsibility and that should be vested in the contractor. In general this seems to be the most disturbing combination to the sound stabilizing of the construction industry. It mostly effects buildings in the lower brackets but frequently reaches into structures of considerable magnitude.

There is one other combination: **The architect and builder** for which there is no legitimate excuse. The claim is better control and better workmanship when obviously the idea is to make one job go as far as possible, keeping the architect longer employed, whose volume of practice is limited and permits it. As a usual thing these are near bankrupt proceedings for an owner and generally bring discredit to the architectural profession.

These combinations are disturbing to the whole building industry. Each has its adherents and each brings confusion to the one who seeks to know and get the most practical results with the least worry and cost.

The disturbing factors are these: The owner is lead to believe that an architect is unnecessary; that the contractor provides a designing plan service at no cost to the owner; that the architect's services increase the cost of construction. Perhaps each and all of these claims are true. In the first instance this is carried on to such an extent that in valuation of work sixty-five per cent of all construction is handled by the contractors and only thirty-five per cent by the architects and contractors. What is the result? When we look up and down the streets of our city and through the residential section we are amazed at the ugliness of it all. True here and there is found a good piece of architecture. We cannot speak of a city beautiful for it has no beauty except like the spots on the leopard. Street upon street, block upon block, chaos in design and confusion in composition, confront us. Occasionally some far sighted business man or organization undertakes an architectural controlled enterprise and the difference is appearance of good taste indisputable.

The contractor's design service to the owner costs very little and may be written off by a single extra. There is so much variation in plan service that it may be little or much according to the desire of the maker. It may be that the contractor's plan service is to show as little as possible so the variations in departure from those plans in construction may be as great as possible without controversy as to which was intended in the first place, while on the other hand the architect's plans are as complete as possible, they should be, so he as co-ordinator between the owner and the contractor will have eliminated, in so far as it is possible, misunderstandings and disputes which he must adjudicate and which may bring reflection upon his ability to produce adequate instruments of service. Any building department, housing bureau or place where plans are required to be filed will show, without the aid of magnifying glasses, the difference between the builders' and architects' plans.

Good Plans are Cheap Plans

Let us admit for the sake of being reasonable that the architects' plans do cost more. There are arguments both for and against the contention that architects' plans increase the cost. It is admittedly true that they increase the durability, life and usefulness of the structure. They enhance the value of the building and the adjacent property and command a higher market value. Then if the cost is increased by reason of the plan the increased value of the structure will write off the cost of the architects' services. Note if you will, then, that in one instance the cost of the plans may be written off in the cost of the construction of the building and in the other case the cost of the plans may be written off in the increment of increased value of the structure by reason of those plans. Which would you prefer if you were the owner?

We turn to other conflicting elements in building construction which affects all of us, some more and some less. Some less because of the adversion and utter horror about it; others more because they like it and will comb

the plans and specifications to find a means whereby they can capitalize the item "extra." The dictionary is very explicit as to the meaning of this word "extra"—Something in addition to what is due, expected or customary; an added charge or fee, or something for which an additional charge is made.

Extras can be avoided and should be avoided. Why not change it by finding some other way of handling it? There has arisen in and for school house construction, by requirements of various Boards and by the State Division of Architecture, a ruling that all deviations from the plans and for anything added to or omitted from them shall be by means of a "change order." A change order recites what is to be done, why it has to be done and is usually accompanied by a plan or sketch. It sets forth the difference in cost and must be agreed to by all parties. It would seem if the contractors and the architects would work out some standard form of change order and put it into use the appelation "extra" might in time become obsolete. There is one other pernicious habit that gets everybody into trouble and that is trading. To omit something here and add something there and reckon the cost as one off-setting the other is bad practice, indeed, and cannot help but lead into controversial issues. This should by all means be stopped. Let it be strongly advised that some change in these directions be speedily brought about as protective measures.

Considering the various plan services and phases of building operations, from the architect's viewpoint, there is no intention to suppress, legislate or in any other way deprive the owner of the right to make plans for his own buildings regardless of the magnitude. Should he do so his responsibility should carry all of the provisions, requirements and penalties applicable to the practicing architect. Should he be joined by others in making such plans they too should be jointly responsible.

As long as financial institutions assume that the protection to the investment has no bearing upon the durability, usefulness or liveability of the structure beyond a depreciation per year that will not jeopardize the loan we shall have speculative builders. There is no way to circumscribe this except by educating the public to more beautiful, enduring and lasting buildings. To build and sell necessitates capital investment which has a sinister influence upon the builder's operations. The least of plans, stock or specially made, as the case may be, with a minimum requirement of workmanship in order to bring a return upon the investment, is paramount to everything else.

Architect Should Stick to His Last

The hot point of the whole situation is reached when fair play has lost its valor in our make-up and we reach out into one another's business. Speaking now of architect and builder or builder and his plan service department, whichever way you find it operates, it is just as unreasonable as it is unjust for the architect to do contracting as it is for the contractor to do architecture although the former may be more capable of doing building than the latter is of doing architecture. Each has its own sphere of usefulness to society and each should be promoted in its own particular line for the most good that can be accomplished in building. The architect gets out of his sphere of usefulness when he becomes materialistic minded. He should be the master of the whole project, conceiving it in his mind, reducing it to plan, design and specification and be the co-ordinator of it all clear through to completion. The contractor is by nature materialistic and not aesthetic in his conception. He may employ talent but employees are not masters in their line. The field is big enough and the demand is great enough and the need is imperative enough for each to pursue his own line of endeavor. The builder may say that he just can't get along with architects, which we may grant in some instances is true, and on the other hand it is sometimes hard to get along with contractors. It is hard to reconcile either party when there is a disposition on either side to depart from what is the reasonable intent and purpose of the plans and specifications. To exact more

than what is called for is unfair to the contractor; to allow him to do less is unfair to the owner.

If it were required that all plans and specifications must be complete instruments of service then, I am sure, the contractors would give up voluntarily the making of plans for he could not absorb the cost out of the contractor's profit and if he were to charge a fee the owner would go elsewhere. And if it were required that all plans and specifications were binding equally upon the owner, architect and contractor, then would follow a very rigid system of adhering strictly to the prepared instruments and if any changes are made they should be made only upon signed changed orders. Then and then only will a contractor feel that an architect is a fair-minded person after all. By this process he will be compelled to be, when he is as morally bound to the documents he makes as is any other party.

If a job has a good start it is very likely to finish satisfactorily. **Sub-contractors are often to blame** for lack of harmony throughout the job. To recite a very recent experience: A small concrete foundation was to be started on Monday evening. Saturday forenoon word came that the foundation work had been started and from all appearances was being skimped. Going immediately to the job and watching proceedings from a distance the apprehension of the owner was substantiated. Approaching the workmen they were asked: "Who is in charge." "We are all bosses here." "But surely some one is overseer of the work?" "No! anybody is boss in our gang." And shovel full after shovel full went into the hopper at the ratio of twenty to one. "I am the architect and during the remainder of this operation I am in charge." "Please take out what you have poured and we will start all over again." Then followed some argument. Their contention was somewhat like this: The earth is soft and a hard substance placed upon it has no particular value. A foundation should begin as a cushion and be gradually strengthened toward the top and it was their intention to reduce the mix to the right proportions as the top finish was reached. Now the owner reasoned: If this is the way I am to be treated I shall protect myself and do it first. From that time on every trade was held in contempt. The plumber, plasterer, tile setter, roofer, painter and all others were subjects for unreasonable demands, all of which lead to many disputes. With a disposition on the part of the owner to disregard plans and specifications and the contractor trying to please yet trying to finish the job without loss, was a case where the architect's position became untenable. Here, one sub-contractor, with the intention of unscrupulous gain, caused all others to do unnecessary work and to be held up to scorn.

Misleading the Public

From this observation it would seem that the **contractor should give very rigid inspection** to sub-contractor's work especially those trades that are admixtures, and not depend upon the architect or owner exclusively.

By reason of our occupation we are all ambitious; ambitious to do things that are worth while, to achieve, to make a success of our occupation. An architect will achieve to do a master's piece of work before he has learned to properly do a small job. A contractor will achieve to do not only his own work but that of the architect too and he will not hesitate to proclaim his self-asserted proficiency. Should he make plans he wants to sign them and being deprived of the right to title himself an architect he resorts to appelations: "Designed by," "Plans prepared by," "Prepared under the direction of" and others quite numerous. The purpose is to advertise himself as one who can design buildings. All of these are violations of the Act Regulating the Practice of Architecture. Aside from that they are particularly misleading to the building public. Within the realm of small jobs this practice is general. In works of some magnitude it is rather a rare occurrence.

In small work the liability is not particularly hazardous and the responsibility is not great enough to create danger. In large work

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SKETCHING IN OIL ARCHITECT'S AVOCATION

SAID TO HELP BETTER TO VISUALIZE ONE'S WORK

By Elmer Grey, F. A. I. A.

UNTIL I was about forty-five all of my sketching had been done in either watercolors or pencil. A vacation then took me to Carmel-by-the-Sea, where some artists induced me to try oils. Occasionally since I have worked in watercolors, but never derived the enjoyment from them that I get from oils.

There is something about oil pigments that makes their handling fascinating. Part of it lies in their thick consistency, for watercolors seem thin and weak by comparison. But the ease with which experimenting with color can be carried on in oils is also a great advantage. For proficiency in the use of color is not an inborn trait entirely; it comes largely from working in color, from much comparison of its different hues and shades.

One of the artists living at Carmel has devised a kit for oil sketching which he makes and sells and which is so ingenious and handy that it adds considerable to the convenience of such work. It consists of a box, one side of which is formed by a 16 x 20 inch canvas mounted on a stretcher, and the box contains all the necessary paints, brushes and palette held in separate compartments in such a way that when one's destination is reached it may be unfolded and forms an easel.

Of course much of the success of outdoor sketching lies in the choice of subject, and because of its irregular topography, its mountains and sea, California is rich in good subjects; but it is also true that much success depends upon the spirit which one brings to his work. One of my outdoor subjects, the choice of which I think reflected a particularly optimistic mood at the time, had for its foreground a dog kennel, a chicken coop, and the red and white underclothing of Mexicans hanging on the line to dry! I doubt if I could again see the same scene in as acceptable a light!

There could be no better avocation than out-of-door sketching. Let me try to take you in imagination upon one such trip in Califor-

nia. You leave home in the morning with your kit and the spirit of adventure. Your route takes you along the bottom of a canyon perhaps where, among huge rocks, you pick your way back and forth across a rushing mountain

stream. Sycamore trees with beautifully mottled trunks and cadmium leaves are growing all about. Pink and blue wild flowers intermix amidst the long grass on the banks. This part of it is much like trout fishing. There is the same jumping from rock to rock, the same chance of getting wet, only more so because of the heavy kit.

From here your gaze may turn upward and you may follow a row of dark-hued pines that skirt along the base of the mountains. Mountains always add a welcome note to a sketch and an air of mystery to a scene. In their blue, hazy depths one can so easily imagine all kinds of wild life abounding—as indeed it does, of which you may see evidence as you settle down in some such place to sketch. Rabbits scurry here and there and deer may come close and peer at you, their curiosity getting the better of their timidity.

It is of course in the mixing and application of the colors as you continue working that much of the enjoyment comes—but this part I cannot transmit, you must experience it for yourself. By way of hint I might say that, when working in transparent watercolors, an attempt at correct values must be made with the very first wash and if then they are not secured (as very seldom they are, hence the lower value of watercolor paintings!) you are just out of luck. Not so when working with oils. Here you can add a little of this and a little of that color until, presto! you know, not only by what it does to your picture that the bright hue has been secured—but also because at the same moment you receive a thrill!

Now, having roughed in your sketch, you proceed further by endeavoring to catch the characteristic spirit of the scene before you; not trying to copy its minute detail — that would be arduous and unprofitable — but rather to interpret that phase of it which won it to you as a subject. To do this may necessitate altering its composition considerably—for nature is frequently a little careless in her compositions!—you may have to accentuate certain essential features and omit others that are disturbing. In this you may not succeed, even though you are experienced, for every sketch is a new problem in both form, arrangement and color. Some subjects, although very beautiful, are also very complex, making it difficult to discover the main elements in their composition essential to their beauty, or the correct color values to bring them out. You do not, of course, try to match the exact colors you see in nature, but rather do that which will give those who see your work something of the same pleasure that you get from the scene—which is a very different thing. The whole gamut of nature colors must be translated to the lowered key of the colors you have on your palette—and that is what makes painting at once so difficult and so absorbing.

You may not know until you get home, and perhaps not even then, whether or not you have secured anything worth while. Indoor lighting and a frame will throw different aspects upon it. Some of the most beautiful of nature's scenes seem to be the hardest to make look beautiful on canvas. Some scenes of the wild, like some animals, refuse to be domesticated! Your own mood may be a determining factor. I once gave up a sketch

as hopeless and it rested on a closet shelf for months; later on, in a different mood, I took it out, finished it, and a man whom I had not known before bought it for $50! That was my first sale and I decided that it took me out of the amateur class! Henceforth I was a professional!

But even though your sketch is not worth keeping — and one of my Carmel friends, whose work ranks high, says that every once and a while he has a painting bonfire!—still your day in the open will not have been spent in vain. For such work does several things to one. It sharpens one's perception of color in all things. A group of trees for example, which once may have seemed all one shade of green, may, with more acute perception, reveal itself as being of many shades. Color aspects in all things—the dappled shadows on a pergola pavement, cloud formations after a storm, the blues and purples of distant mountains—all such things will become subjects of more frequent notice and greater enjoyment.

It alters one's viewpoint regarding the design of buildings. Heretofore you may have

appraised buildings from only an architectural viewpoint. Now you will look at them also through the eyes of a painter and wonder how they would look in a picture. It will help you greatly in visualizing the buildings you have to design, enabling you to throw them into free-hand perspective readily and may lead you to alter and improve some of their proportions in consequence.

And for still another reason your sketching day will not have been in vain. For verily, the silence, beauty and strength of the hills will by some strange alchemy instill their essence into your blood—if you have had worries you may be surprised to find that they have left you; and even if some later day they should threaten to return, you may recall the words of the Psalmist, "I will lift mine eyes unto the hills from which cometh my strength"—and with these in mind again seek and find peace.

ARCHITECT . CONTRACTOR . OWNER

(Concluded from Page 44)

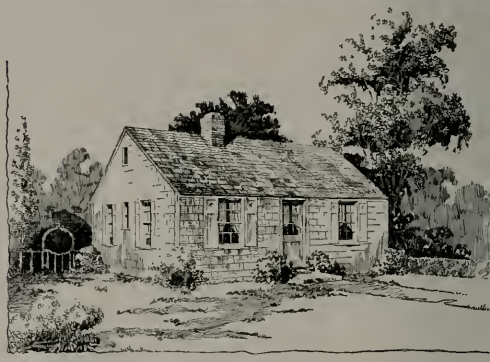
there is a real and potential danger which should only be borne by those skilled in the mechanics of materials so as to reduce the hazard to a minimum and place the responsibility where it belongs.

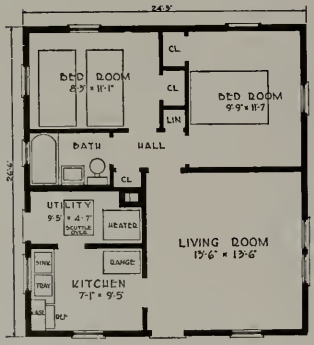
Each and every one desires to cross that border line and get away from having to do work for which he is not particularly fitted and to step into a larger field where others are required to share a part of the responsibility. That border line is disproportionally placed at the present time. It is unreasonably pushed far out over a vast field of contendable construction. Contendably as to whether it should be architecturally treated or just left to common-place design and construction. Perhaps twenty-five per cent of the work that lies in this field should be more skillfully planned and designed. If it were it would add pride on the part of the possessor and the builder; it would increase the demand for better work; it would increase the contractor's source of revenue by reason of a better piece of work; it will wield a greater bond of fraternity between the crafts, and in that may be included the architect; it will bring fair honor to our communities and above all bring harmony into the ranks where now exists suspicion, accusation, disquietude and unrest.

FEDERAL HOUSING ADMINISTRATION'S PLANS for SMALL HOMES

Two exterior schemes are suggested for this plan . . . the drawings show plain but not unattractive designs.

Either house may be built at moderate cost.





FIRST FLOOR

Small plan shows possibility for cellar entrance.

ARCHITECTURE IN EVERY SENSE

Eugene Raskin in Pencil Points

ONCE again I found myself looking across a vast expanse of desk into the steely grey eyes of the Great Architect, and discovering anew their strangely mesmeric quality. And once again I raised to my lips a glass of that unidentified red beverage which had affected me so curiously on my last visit. It did not seem quite so bitter this time, but its glow was just as warm through my veins.

"Yes," continued the Great Architect, settling back in his chair, "we are merely beginning. Architecture is still in its infancy. Pay no attention to all these short-sighted, dyspeptic pessimists who tell you that the field of architecture is becoming more and more limited. They yelp about the architect being only a cog in the machine of Big Business Building . . . they whisper ominously about mass housing, prefabrication . . . Bah! I say that architects haven't even begun to learn the full scope of their profession. Why," he emphasized his words with the tip of a forceful forefinger on the desk-top, "they haven't so much as learned the few fundamental elements of their art!"

The Great Architect paused to lift his glass, and with a questioning eyebrow waited for me to follow his example. I did so. Somehow, the feeling descended on me that I was about to hear and learn things of vital importance—that this evening would be one of overwhelming significance.

"Let us see," he went on, "what these fundamental elements are. Architecture is a science insofar as it solves problems relating to function, construction, and comfort. It is an art insofar as it affects us through our senses. Through our senses, I say, because only thus are we equipped to become aware of it.

"This may sound childishly simple to you—but is it? In all the generations of architects that have preceded us, no one — and there were some fairly talented ones — seems to have fully grasped this last point, or realized all of its potentialities. Nor does our own generation understand it properly.

"Stating the matter in its barest terms, it becomes quite clear. There is, first, the sense of sight. We design for this sense by means of form and line, color, light and shadow. Very good. Next, there is the tactile sense—touch. We design for this by means of texture. Polished surfaces, rough ones, hammered ones, fabrics—an endless variety. Some appeal directly to the touch, and some indirectly by way of the eye and association of sensory experiences. Excellent. Third, the auditory sense —the sense of hearing. It took us some centuries to get around to it, but we are at last designing acoustically. The fourth sense, taste, belongs properly to another aesthetic field—the culinary art.

But how about the fifth sense? Why have we architects not designed especially for it? I mean the olfactory sense—smell."

"Smell?" I giggled weakly.

"Yes, smell." The Great Architect frowned at my disrespectful mirth. Reaching hastily for my glass, I endeavored to cover my embarrassment by draining it at one gulp. After that, the suggestion did not seem quite so ridiculous. Smell? Why not?

A moment's deliberate pause, and the Great Architect continued.

"To make my point clear, I need merely to remind you how important the faint, characteristic odors of certain buildings are, in creating the special, particular moods which we feel upon entering them. For example, the smell of chill masonry, mingled with that of extinguished tapers and old woodwork, unde-

niably helps a cathedral to impress on the visitor that sense of awe and mysticism. Undoubtedly, you should not feel that little lift in your spirits when you come into a theater, if the aroma of rugs, tapestries, programs, and ladies' perfumes were absent. But forgive me for speaking in such an elementary manner. What I mean to bring out is that we, as architects, should deliberately place, control, and arrange these smells in our buildings, so that we may be in fuller command of our art. One of the fundamental elements of architecture has till now operated through chance —but has, none the less, operated; for it is inescapable. Is it not then the plainest of common sense to study it, learn to manage it —to use it as a tool, rather than just let it happen?"

With an effort, I tried to regain my critical faculties.

"But is it practical?" I queried. "How can one control smells—insert certain odors . . . eliminate others?"

"That is no problem at all." The Great Architect waved a graceful hand. "Already most of our air-conditioned theaters use small vials of perfume which work on the principle of the atomizer. These are placed in the supply ducts, and have proved very satisfactory. In air-conditioned homes and other buildings, the same method can be applied; in fact, individual rooms may be individually odorized to conform with the effect desired. Where there is no air-conditioning, evaporation flasks (similar to certain humidifiers now on the market) may be employed.

"But enough of this theorizing!" He rose and motioned me to follow. "Let me show you my laboratory."

He led me through a door and down a parabolic flight of stairs. (The house was his own design.) Finally we entered what was beyond question the most impressive laboratory I had ever seen. I shall not attempt to describe it, except to say that it might have been dreamt by a Hollywood scenic designer under the influence of a pipeful or two of opium. Following closely at the Great Architect's heels, we passed mysterious arrays of retorts, tubes, dynamos—to come to a halt at last before a rack containing hundreds of vari-shaped bottles, each bearing a label. "Dress Shop," read one. "Art Gallery," said another. "Music Room," a third.

The Great Architect interrupted my examination. "Here you see the results of the first constructive steps that have been taken in realizing the new, broader concept of architecture. These bottles contain the essences which give the characteristic odors of various kinds of rooms or establishments. Those who will follow me," he struck a dramatic pose, "will have the privilege of making further advances. They will go into each type and subidivide it; so that, for example, we may have the correct essence for an Art Gallery of academicians, and for an Art Gallery for moderns. Why don't you sniff one or two?"

Gingerly I lifted from its berth a bottle labelled "Gentleman's Study." Unscrewing the cap, I raised the bottle to my nostrils. Strangely enough, I could detect no distinguishable aroma; but closing my eyes, I could have sworn that I was surrounded by book-lined walls, leather chairs, an open fireplace, and humidors of good tobacco.

"Master . . ." I stammered, "this is revolutionary! But how did you ever accomplish it? I wasn't aware that you are a brilliant chemist as well as . . ."

"I came to chemistry by a logical process. If you are familiar with my career, as of course you are, you remember that some years ago I was rather active in housing circles, but that I soon dropped out. That was because I was convinced that no progress could be made until a workable unit was found. That task I set myself.

"I experimented first with blocks of houses, then single ones. Next I tried room groupings, but presently broke them down into use-areas. My invention of the Elbow Room Module (3.9 feet) you know." The Great Architect drew himself up with dignity.

"I am now," he continued, "pursuing the atom into the Fourth Dimension."

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Harris C. Allen
Editor

Address all communications for publication in the Bulletin to the Editor (Harris C. Allen) 557 Market Street, Room 218, San Francisco, California.

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San Francisco Office Burned

Temporary Quarters—156 Montgomery Street

THE office of the State Association of California Architects, Northern Section, at 557 Market St., San Francisco, has had to be abandoned temporarily. Early in December (and very early in the morning) a fire completely demolished the top story, immediately over the office, and was only prevented from consuming the entire building and probably its neighbors by the amazingly competent work of the San Francisco Fire Department.

What fire did not do, water, smoke and soot accomplished. The office and its furnishings was a wreck. Fortunately most of the records and stationery were under cover and uninjured. Repairs to the building are under way and the office will be reoccupied some time in January. Meanwhile, that indomitable office secretary, Our Miss Kragen, may be found each morning in Room 205, 156 Montgomery Street, where her responsive smile, ready wit, and sympathetic interest carry on the regular activities of the Association. Ne Plus Ultra!

JOINT BOARD

Mention has been made before, in these columns, of this board and its potential value. It has consisted of official representatives of architects, engineers, contractors and producers. At a recent meeting it was decided to increase the membership, not so much as to make the board unwieldy, but so as to engage the interest and support of certain allied branches of the building industry. It is obvious that a small group which meets, in an advisory capacity only, to discuss various problems and objectives, can reach an agreement which is difficult for a larger meeting. Each representation is requested to secure from his own organization approval or criticism of proposed action, which is definite and prompt. When all differences are ironed out, all the organizations take a common action—which means that the Building Industry presents a united front. Under the chairmanship of Harry Michelsen, architect, with William Hague of the A. G. C. as secretary, we look forward to positive results from the Joint Conference Board.

INFORMATION

It often happens that an architect needs information in hurry, about material or method, and has trouble in locating names and addresses of dealers. Let us point out—and recommend—that consultation of the Architects' Specified Index, published in each issue of **The Architect and Engineer,** contains names, addresses, and often telephone numbers of a large number of the most reputable material dealers and manufacturers in this district. A word to the wise is sufficient.

1937 CONVENTION

Plans are going forward for the 1937 Convention of the American Institute of Architects and the State Associations. The meeting this year will be held in Boston, Mass., late in May. Detailed information will be given in a later issue.

SOUTHERN CALIFORNIA CHAPTER

The 1937 officers of Southern California Chapter, The American Institute of Architects, were re-elected at the regular monthly meeting of the Chapter in Los Angeles, December 8. They are: Ralph C. Flewelling, president; Eugene Weston, Jr., vice-president; George J. Adams, secretary, and Samuel E. Lunden, treasurer. Edgar F. Bissantz was elected a director for the three-year term.

Delegates and alternates to the national convention of the Institute, to be held in Washington, D.C., next spring, were elected as follows: Delegates—Eugene Weston, Jr., S. B. Marston, Sumner Spaulding, D. C. Allison and Samuel E. Lunden. Alternates—A. C. Zimmerman, Earl T. Heitschmidt, Edgar F. Bissantz, Carleton M. Winslow and Herbert Powell.

A comprehensive account of the government's resettlement projects was given by Joseph Weston, formerly chief architect of the Rural Resettlement Administration, who recently resigned to return to private practice.

The administration has twelve regional offices, one in San Francisco where Mr. Weston first went about eighteen months ago in connection with this work. After organizing the architectural section in that city he went to Portland, Oregon, later making a tour of the twelve regions and then going to Washington.

Mr. Weston has had a great deal of experience in rural and suburban housing design. He planned the houses built in 1934 on the Subsistence Homestead projects in the San Gabriel Valley and in the San Fernando Valley.

The life of Sir Christopher Wren was the subject of a talk made by Walter Davis.

Following the meeting, at which Ralph C. Flewelling presided, H. C. Newton conducted a forum on forms of agreements in use between architects and their clients.

WINNERS IN TILE COMPETITION

Winners in the competition sponsored by the Pacific Coast Association of Tile Manufacturers for tile bathrooms and kitchen designs have been announced.

The competition was conducted under the auspices of the American Institute of Architects with Eugene Weston, Jr., as professional adviser. The jury consisted of Roland E. Coate, H. Roy Kelley and Clarence A. Tantau of the A.I.A. and George S. Hunt and Jess Stanton. Following is the list of awards:

Bathroom Competition

First Prize—Henry L. Eggers, 321 South Irving Boulevard, Los Angeles.

Second Prize—Donn Emmons, 803 South Highland Avenue, Los Angeles.

Third Prize—Charles A. O'Grady, 5369 Wilshire Boulevard, Los Angeles.

Mention—George N. Kimball, Box 93 N., San Diego.

Mention—Harold J. Nicolais, 4070 South Normandie, Los Angeles.

Kitchen Competition

First Prize—Clifton R. Hoskins, 727 North Catalina, Pasadena.

Second Prize—Rose Connor, 170 East California Street, Pasadena.

Third Prize—G. Y. Cannon, 117 East Colorado Street, Pasadena.

Mention—Elizabeth N. Pennock, 422 U. S. Bank Bldg., Portland, Ore.

Mention—Richard J. Mayer, 2731 West 15th Street, Los Angeles.

Recommended for Purchase

Kitchen—Herman Chas. Light, 417 South Hill Street, Los Angeles.

Bathroom—William H. Taylor, 1265 Morada Place, Altadena.

Bathroom—Rose Connor, 170 East California Street, Pasadena.

PRODUCERS COUNCIL ENTERTAINS

More than 150 architects, engineers and other members of the building industry were guests of the Producers' Council Club of Southern California at the fourth annual dinner and "hi-jinks" of that organization, held at the Cafe de Paris in Los Angeles, December 29.

The dinner period of the meeting was followed by entertainment, consisting of the Cafe de Paris floor show and some special dance numbers. There were no speeches, aside from a few words of welcome by Eric Barnett, president of the Producers' Council Club of Southern California.

A similar affair was given by the Producers' Council Club of Northern California to a large assemblage of Bay region architects and engineers.

EXPANSION

Doubling its floor space to accommodate increasing requirements, the Gerth - Knollin Advertising Agency now occupies new quarters on the ninth floor in the One Eleven Sutter Building, San Francisco.

Established in 1933, this San Francisco advertising organization, serving regional and national accounts, has kept pace with improving business conditions, this being its fourth expansion.

New additions to the Agency's staff are announced by the partner-owners, Edwin P. Gerth and Jas. C. Knollin, as follows: Jas. A. Richardson, formerly of New York as visualizer and production manager; and Richard Merrifield, formerly on the staff of Sunset Magazine, as copy writer. Cyril Wright, space buyer, is promoted to account executive, and will continue to supervise the media department.

With the Architects

SAN FRANCISCO RESIDENCE

Gardner A. Dailey, 210 Post Street, San Francisco, has completed plans for a $13,000 residence to be built on the south side of Washington Street, east of Arguello Boulevard, San Francisco, for Forest Jones.

Mr. Dailey has also completed plans for a seven room residence in Atherton, San Mateo County, for Charles C. Montanye of Menlo Park.

COUNTY BUILDING

A contract has been awarded to Barrett and Hilp of San Francisco, for the construction of a three story reinforced concrete county building at Santa Cruz to contain offices for county officials and a jail. It is the first unit of a building program of considerable magnitude. Albert F. Roller is the architect.

MEDICO CENTER BUILDING

The office of Resing and McGuinness, 488 Pine Street, San Francisco, is preparing preliminary drawings for a three story and basement frame and stucco medical center building for the General Hospital at Dwight Way and Milvia Street, Berkeley. The estimated cost of the improvement is $50,000.

SCHOOL BUILDING ADDITION

Messrs. Binder and Curtis, architects of San Jose, are preparing preliminary drawings for additions to the Cambrian Grammar School near Campbell, Santa Clara County. The improvements will include a small assembly hall and cafeteria.

FACTORY BUILDING

Alben Froberg, architect of Oakland, has completed working drawings for a $10,000 factory building for the Stearman Fixture Company of Oakland. Construction will be one story frame with galzanized iron roof and steel sash.

APARTMENT BUILDING

Francis Skelly is the owner of a six-story Class C reinforced concrete apartment house to be built on the north side of Pacific Avenue, east of Gough Street, San Francisco, from plans by H. C. Baumann, 251 Kearny Street, San Francisco.

STORE REMODELING

Extensive alterations are planned to the Union Furniture Company's store at 1017 Market Street, San Francisco, from plans by S. Charles Lee, architect, 25 Taylor Street, San Francisco. The work will include a modern front and interior remodeling.

PERSONAL

Fred Rounds, architect, has opened an office at Pullman. Mr. Rounds retains his interest in the office of Fred G. Rounds and Sutton, Whitney and Dugan at Tacoma.

Arnold Southwell, a graduate in architecture, University of Oregon, and for ten years in the office of Heath, Gove and Bell, Tacoma, is now located at Miami, Florida. He had been for five years a member of Schoeppel and Southwell in the same city.

SAN FRANCISCO FACTORY

W. D. Peugh is preparing working drawings for a $40,000 two-story reinforced concrete factory to be built on Third Street, south of 20th, San Francisco, for Middleton and Watson. The structural engineer is F. W. Kellberg. The same architect has completed drawings for a four-story steel and brick office building at 210 Sansome Street, San Francisco, for the Maryland Casualty Company. The estimated cost is $150,000.

WASHINGTON STATE CHAPTER

Christmas presents and greetings were extended by the members of the Washington State Chapter, A.I.A., at a Yuletide party held Thursday evening, Dec. 17, at the Boulevard Inn, Seattle. La Monte Shorett, officiated as entertainment chairman.

DEPARTMENT STORE ALTERATIONS

The Emporium, San Francisco, is planning the expenditure of $600,000 on further remodeling work this year. The Emporium's own engineering department will prepare the plans.

BROWN NAMED CHIEF

Arthur Brown, Jr., has been appointed chief of the Board of Architects in charge of the architectural work for the Golden Gate 1939 Exposition, succeeding the late Geo. W. Kelham.

MARIN COUNTY RESIDENCE

Revised plans have been made for a $15,000 residence at Ross, Marin County, for Mrs. Florence D. Pittman and Catherine D. Crosby. The architect is Albert J. Evers of San Francisco.

WURSTER RESIDENCE

New residences designed in the office of William W. Wurster, Newhall Building, San Francisco, will have seven rooms and three baths. The house will be built on Castenada Avenue, San Francisco for Mrs. M. L. Thomson.

AN INTERESTING PATIO

President
A. V. Saph, Jr.
Directors
William Adrian
Harold M. Engle
Jesse Rosenwald

STRUCTURAL ENGINEERS ASSOCIATION
OF NORTHERN CALIFORNIA

Vice-President
John J. Gould
Secretary-Treasurer
Alfred P. Fisher
111 Sutter Street
San Francisco
Douglas 1066

NEW HEAD OF STRUCTURAL ENGINEERS' ASSOCIATION

A. V. Saph, Jr., newly elected President of the Structural Engineers' Association of Northern California, succeeding Jno. B. Leonard, is a graduate of the University of California, College of Civil and Structural Engineering. Mr. Saph has been in private consulting engineering practice for the past twenty years, succeeding his father. He has spent his entire professional life in San Francisco, although his work has been distributed over the western states, excepting the two years he served with the Navy Department during the World War. Mr. Saph was professor of civil engineering at St. Mary's College for six years. He has done considerable work in connection with steam power houses and chimneys built on the Pacific Coast. He was engaged as a concrete arch consultant on the Alameda County Estuary Tube.

A. V. SAPH, JR.

Mr. Saph is a member of the American Society of Civil Engineers and one of the founders and a charter member of the Structural Engineers' Association of Northern California, was secretary-treasurer for five years and a director for four years. He is married, has a family, and lives in Berkeley.

OFFICERS INSTALLED

The Structural Engineers' Association of Northern California installed their 1937 officers following a dinner at the Stewart Hotel, San Francisco, Tuesday evening, January 12. The new officers are: A. V. Saph, Jr., president; John J. Gould, vice-president; Alfred P. Fisher, secretary-treasurer; William Adrian, H. M. Engle, and Jesse Rosenwald, directors. Retiring president, John B. Leonard, reviewed the work for the past year. The first president of the Association, H. J. Brunnier, acted as master of ceremonies, assisted by George B. McDougall, State Architect, and Will G. Corlett, president of the Northern California Chapter, American Institute of Architects. President Saph outlined the policy of the Association for the year and gave detailed instructions to the various committees.

COMMITTEES FOR 1937

Following is a complete list of standing committees of the Structural Engineers' Association of Northern California for 1937:

Advisory Committee

John J. Gould, Chairman; W. Adrian, H. J. Brunnier, T. F. Chace, Walter Dreyer, A. W. Earl, H. M. Engle, Alfred P. Fisher, S. S. Gorman, Harold Hammill, W. L. Huber, A. M. Nishkian, L. H. Nishkian, Mac. D. Perkins, H. C. Powers, William H. Popert, Hyman Rosenthal, Jesse Rosenwald.

Program Committee

S. S. Gorman, Chairman; Joseph W. Barkley, W. E. Emmett, Milo S. Farwell, Ernest D. Francis, F. F. Hall, Howard L. Kegler, C. H. Kromer, H. L. Marchand, B. J. Osborne, Albert J. Paquette, F. B. Plant, William H. Popert, Hyman Rosenthal, Howard A. Schirmer, George Washington, Charles A. Whitton.

Membership Committee

Thomas F. Chace, Chairman; A. L. Brinckman, Erle L. Cope, R. D. Dalton, W. P. Day, J. R. Fox, Charles W. Gulick, A. C. Horner, J. H. Hjul, Geo. H. Jennings, Wm. Lotz, Frederick W. Panhorst, M. C. Poulsen, H. V. Pregnoff, J. R. Shields.

Professional Activities and Welfare Committee

Mac. D. Perkins, Chairman; A. W. Anderson, J. H. Anderson, P. I. Baker, A. W. Earl, Bruce Jameyson, Searle B. Nevius, V. R. Sandner, H. C. Vensano, A. B. Willett, J. G. Wright.

Legislative Committee

L. H. Nishkian, Chairman; Jesse Rosenwald Vice-Chairman; H. J. Brunnier, Henry D. Dewell, A. W. Earl, W. L. Huber, Geo. T. McKee, H. C. Vensano.

Fees Committee

Harold B. Hammill, Chairman; H. J. Brunnier, R. S. Chew, R. H. Cooley, N. B. Green, F. W. Kellberg, L. H. Nishkian, Jesse Rosenwald, T. Ronneberg, J. Smith, C. H. Snyder, K. Theill.

Structural Engineering & Research Committee

Henry C. Powers, Chairman; C. N. Bley, A. A. Brown, R. E. Davis, Theo. P. Dresser, Walter Dreyer, Homer M. Hadley, L. C. Jacobsen, Stanley C. King, J. A. Kitts, G. T. McKee, L. K. Packard, Felix Spitzer, F. P. Ulrich.

Committee on Relation Between Employers and Employees

A. M. Nishkian, Chairman; W. H. Alderson, Glenn B. Ashcroft, A. C. Atkinson, Francis J. Clapham, R. H. Cooley, Harry A. Cox, Henry Dewell, W. H. Ellison, Philip Goodwin, C. W. Hess, George Hill, M. P. Kitchel, Edwin F. Levy, R. F. Lyman, V. H. Poss, C. H. Snyder, H. Smith, K. Theill, D. C. Willett.

Professional Training Committee

Walter E. Dreyer, Chairman; E. O. Burgess, Henry D. Dewell, Theo. P. Dresser, Jr., W. E. Emmett, Milo S. Farwell, J. R. Fox, Harold B. Hammill, C. H. Kromer, Frederick Wm. Panhorst, M. C. Poulsen, H. C. Powers, John K. Rode, Victor Saski, Howard A. Schirmer, James B. Wells, Clement T. Wiskocil.

Publicity Committee

William H. Popert, Chairman; Hyman Rosenthal, Vice-Chairman; W. H. Alderson, A. G. Atkinson, P. I. Baker, John Cherno, John Conzelman, W. E. Emmett, S. S. Gorman, F. Hall, G. Hill, Geo. H. Jennings, M. P. Kitchel, Edwin F. Levy, H. A. Schirmer, George Washington.

Building Inspectors Committee

A. V. Saph, Jr., John J. Gould, William Adrian, H. M. Engle, Jesse Rosenwald, Alfred P. Fisher.

SOUTHERN CALIFORNIA ENGINEERS

At the monthly meeting of the Structural Engineers Association of Southern California held January sixth at the University Club, the new officers for 1937 were installed by retiring president Murrary Erick.

D. L. Narver of the engineering firm of Holmes and Narver, as the new president, will direct the Association activities this year. Other officers are Robert J. Hiller, vice president and C. G. DeSwarte, secretary-treasurer. Retiring president Murray Erick will become a member of the board of directors as will J. H. Davies and J. E. Byers.

Richard Neutra, architect, gave an illustrated lecture on "Trends of Architecture". Mr. Neutra traced and illustrated the growth of architectural expression from primitive living abodes to the present day conception of functional architecture.

Regular meetings of the Association will be held during the year on the first Wednesday of each month at the University Club.

LEAKY BRICK VENEER WALLS

Architect & Engineer,
San Francisco, Calif.

Gentlemen:—We have been having some difficulties with leaks on a brick veneer home. The brick are a very dense, smooth surface make, that do not absorb any water in 24 hours. They are not glazed.

These brick were laid up in a 3/16 inch butter joint by good workmen and the contractor is at a loss to know where the trouble is.

Could you advise what we could do or where we could look for some help?

Thanking you, we are,

Very truly yours,
W. H. MAZE COMPANY.

San Francisco, January 9, 1937.

W. H. Maze Company,
Peru, Illinois.

Gentlemen:—Replying to your inquiry of December 31, the trouble you are experiencing is not an uncommon one and is probably due to several things, (1). Absence of waterproofing paper back of the brick; (2) holes in the joints caused by nails driven by the bricklayer in running his line; (3) skimpage of good cement in the mortar.

Possible remedies would be to fill the nail holes if any are visible with rich cement and sand, damp-proof the entire wall, or better still, stucco the exterior. Use a waterproofing in the stucco.

Very truly yours,
W. S. STANLEY,
For Architect and Engineer.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.

Brickwork—
Common. $40 to $45 per 1000 laid. (according to class of work).
Face. $75 to $90 per 1000 laid. (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $ .75 sq. ft.
Common f.o.b. cars, $14.00 job cartage.
Face, f.o.b. cars, $45.00 to $50.00 per 1000. carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 84.00 per M
4x12x12 in.	94.50 per M
6x12x12 in.	126.00 per M
8x12x12 in.	225.00 per M

HOLLOW BUILDING TILE (f.o.b. job)
carload lots.

8x12x5½	$ 94.50
6x12x5½	73.50

Discount 5%.

Composition Floors—18c to 35c per sq. ft. In large quantities, 16c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft
Rubber Tile—50c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft
Terazzo Steps—$1.60 lin. ft.

Concrete Work (material at San Francisco bunkers)—Quotations below 2000 lbs. to the ton. $2.00 delivered.

No. 3 rock, at bunkers	$1.80 per ton
No. 4 rock, at bunkers	1.75 per ton
Elliott top gravel, at bunkers	2.10 per ton
Washed gravel, at bunkers	2.10 per ton
Elliott top gravel, at bunkers	2.10 per ton
City gravel, at bunkers	1.75 per ton
River sand, at bunkers	1.80 per ton
Delivered bank sand	1.20 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery

SAND
Del Monte, $1.75 to $3.00 per ton
Fen Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, 2.50 per bbl. in paper sks.
Cement (f.o.b. Job. S. F.) $3.25 per bbl.
Cement (f.o.b. Job. Oak.) $3.25 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Calaveras White ..... $6.00 per bbl.
Medusa White ..... $8.00 per bbl
Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft
4½ inch Concrete Basement floor. ..... 14½c to 16c per sq. ft
2-inch rat-proofing ..... 7½c per sq. ft.
Concrete Steps ..... $1.50 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $7.00 per outlet including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—
Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $85.00 per balcony, average.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 35c per sq. foot
Obscure glass, 26c square foot.
Note—Add extra for setting

Heating—
Average, $1.90 per sq. ft. of radiation according to conditions.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site).

No. 1 common	$34.00 per M
No. 2 common	29.00 per M
Selection O. P. common	39.00 per M
2x4 No. 3 form lumber	24.00 per M
1x4 No. 2 flooring VG	65.00 per M
1x4 No. 3 flooring VG	55.00 per M
1x6 No. 2 flooring VG	65.00 per M
1¼x4 and 6, No. 2 flooring	70.00 per M

Slash grain—

1x4 No. 2 flooring	$50.00 per M
1x4 No. 3 flooring	40.00 per M
No. 1 common run T. & G.	35.00 per M
Lath	8.00 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.10 per bdle.
Redwood, No. 2	90 per bdle.
Red Cedar	1.00 per bdle.

Hardwood Flooring (delivered to building)—

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" T&G Sq. Ed.
13-16x3¼" T & G Maple			$120.00 M ft
1 1-16x2¼" T & G Maple			132.00 M ft
⅞x3½ sq. edge Maple			140.00 M ft
Clr. Otd. Oak	$200.00 M	$150.00 M	$180 M
Sel. Otd. Oak	140.00 M	120.00 M	135 M
Clr. Pla. Oak	135 00 M	107.00 M	120 M
Sel. Pla. Oak	120.00 M	88.00 M	107 M
Clear Maple	140.00 M	100.00 M	
Laying & Finishing	13c ft.	11 ft.	10 ft

Wage—Floor layers, $7.50 per day.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, 500 ft. roll	5.00
Brownskin Pro-tect-o-mat, 1000 ft. roll	10.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft
Sash cord com. No. 8	1.50 per 100 ft
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft

Sash weights cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45 per ton.

Millwork—
O. P. $110.00 per 1000. R. W., $115.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $8.00 and up, each.
Doors, including trim (five panel, 1¾ in Oregon pine) $6.50 each.
Screen doors, $4.00 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high per lineal ft., $6.50 each.
Dining room cases, $7.00 per lineal foot
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work ..... 35c per yard
Three-coat work ..... 45c per yard
Cold Water Painting ..... 12c per yard
Whitewashing ..... 4c per yard
Turpentine, 80c per gal., in cans and 75c per gal. in drums.
Raw Linseed Oil—80c gal. in bbls.
Boiled Linseed Oil—85c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lbs. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net. wt.	12½c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch ..... $1.00 lineal foot
8-inch ..... 1.50 lineal foot
10-inch ..... 1.75 lineal foot
12-inch ..... 2.00 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.75
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	1.00
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.30
Ceilings with ¾ hat roll channels metal lath	.75
Ceilings with ¾ hat roll channels metal lath plastered	1.75
Shingle partition ¾ channel lath 1 side	.85
Single partition ¾ channel lath 2 sides 2 inches thick	2.75
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	3.00

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.20
2 coats Celaveras cement, brick or concrete wall	1.35
3 coats cement finish, No. 18 gauge wire mesh	1.50
3 coats Celaveras finish, No. 18 gauge wire mesh	2.00

Wood lath, $7.50 per 1000.
2.5-lb. metal lath (dipped) .17
2.5-lb. metal lath (galvanized) .20
3.4-lb. metal lath (dipped) .22
3.4-lb. metal lath (galvanized) .28
¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $19.50 ton.
Plasterers Wage Scale ..... $1.25 per hour
Lathers Wage Scale ..... 1.25 per hour
Hod Carriers Wage Scale ..... 1.10 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $65.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $6.50 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.00 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 to $60.00 per sq. laid according to color and thickness.

Sheet Metal—

Windows—Metal, $2.00 a sq. foot.
Fire doors (average), including hardware $2.00 per sq. ft.

Skylights—

Copper, 90c sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$110 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $80 to $90 per ton cost of steel; average building, $95.00.

Steel Reinforcing—

$100.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00, Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, Etc.—(See Dealers).
Asphalt Tile—18c to 28c per sq. ft. installed.

SAN FRANCISCO BUILDING TRADES WAGE SCALE

Recommended by the Impartial Wage Board, June 18, 1936. Effective July 1, 1936

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein. This scale applies only to work on buildings and does not include inside or shop workers.

CRAFT	Journeymen Mechanics
Asbestos Workers	$ 8.00
Bricklayers	12.00
Bricklayers' Hodcarriers	8.00
Cabinet Workers (Outside)	9.00
Carpenters	9.00
Cement Finishers	9.00
Cork Insulation Workers	9.00
Electrical Workers	10.00
Electrical Fixture Hangers	8.00
Elevator Constructors	10.40
Engineers, Portable and Hoisting	9.00
Glass Workers (all classifications)	8.50
Hardwood Floormen	9.00
Housesmiths, Architectural Iron (outside)	9.00
Housesmiths, Reinforced Concrete, or Rodmen	9.00
Iron Workers (Bridge and Structural)	11.00
Iron Workers (Haisting Engineers)	11.00
Laborers (six-day week)	$ 5.50
Lathers, Channel Iron	10.00
Lathers, all others	9.00
Marble Setters	10.00
Millwrights	9.00
Mosaic and Terrazzo Workers (outside)	9.00
Painters and Decorators	9.00
Painters, Varnishers and Polishers (outside)	9.00
Pile Drivers and Wharf Builders	9.00
Pile Drivers Engineers	10.00
Plasterers	12.00
Plasterers' Hodcarriers	8.00
Plumbers	10.00
Roofers (all classifications)	8.00
Sheet Metal Workers	9.00
Sprinkler Fitters	10.00
Steam Fitters	10.00
Stair Builders	9.00
Stone Cutters, Soft and Granite	9.00
Stone Setters, Soft and Granite	12.00
Stone Derrickmen	9.00
Tile Setters	10.00
Tile, Cork and Rubber	9.00
Welders, Structural Steel Frame on Buildings	11.00
Welders, All Others on Buildings	9.00
Dump Truck Drivers, 2 yards or less	6.00
Dump Truck Drivers, 3 yards	6.50
Dump Truck Drivers, 4 yards	7.00
Dump Truck Drivers, 5 yards	7.00
Dump Truck Drivers, 6 yards	7.50
Truck Drivers of Concrete Mixer Trucks:	
2 yards or less	6.50
3 yards	7.00
4 yards	7.50
5 yards	7.50
6 yards	8.00

GENERAL WORKING CONDITIONS

1. Eight hours should constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period should be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday, inclusive, should constitute a week's work, except for building laborers.
5. The wages set forth herein should be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs except for intra-city fares should be paid by contractor.
8. Traveling time in excess of one hour each way should be paid for at straight time rates.
9. Overtime should be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter should be paid double time. Saturdays (except for Laborers), Sundays and Holidays from 12 midnight of the preceding day, should be paid double time. Irrespective of starting time, overtime for Cement Finishers should not commence until after eight hours of work, except that after 12 midnight overtime for cement finishers should be paid at the rate of time and one-half for the first four hours and double time thereafter. Shift work for cement workers should be subject to the provisions of paragraph 11.
10. On Saturday Laborers should be paid straight time up to eight hours. Overtime rates should be paid as specified in paragraph 9.
11. Where two shifts are worked in any twenty-four hours, shift time should be straight time. Where three shifts are worked, eight hours' pay should be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, should be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men then reporting for work should work at straight time. Any work performed on such jobs after midnight should be paid time and one-half up to four hours of overtime and double time thereafter.
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided should be entitled to two hours' pay.
16. This award should be effective in the City and County of San Francisco.

SKETCH BY HARRISON CLARKE

FUTURE OF WARM AIR HEATING AND AIR CONDITIONING

by Bennet Chapple

IT is just twenty-three years ago that the Warm Air Furnace Association was organized. While it is true that this is not long enough for a silver anniversary, I can see a silver lining just ahead in the renewed activity which has come to the surface during the past year or two.

With the growing need of heating and ventilating has come science and research to raise the standards in design and installation, bringing beauty in appearance and efficiency in operation, and providing more comfortable and healthful conditions in the home. Even the basements of our homes have gone modern and vie in their attractiveness with the bathroom, the kitchen and other rooms all over the house. Inventive genius has also brought the electrical industry into the picture through the development of mechanical or forced air systems, and it begins to look like the sky is really the limit in providing greater comfort and health for the human race.

Unquestionably the public has turned to warm air heating and air conditioning in greater appreciation than ever before. Personally, I know something about this demand on the part of the public, or perhaps I should say, on the part of the wives. Right now I am having a lot of fun putting air conditioning in my home. All of us remember only too well the terrific heat wave last summer. It would seem as if Nature, herself, had enlisted in the sales department of your business. The rivers of perspiration have floated dollars of profit into your tills. In fact, the prognosticators of business tell us that air conditioning is destined to be one of our greatest industries and they have good reason for this analysis.

The heating and ventilating industry is not alone in this movement. Allied forces are gathering for this great expansion of the heating and ventilating business. Take for example the part iron and steel plays in the picture. From those early days when the old-fashioned fireplace gave way to stoves and furnaces, sheet metal has been a part of your life. But your demand was conservative. Hand mills had no difficulty in keeping you supplied with all the sheet iron you needed. Now what's happened? The whole civilized world, it seems, has turned to products made of sheet metal. Not only is the air conditioning industry leaping forward, but everything else—household appliances, automobiles, streamlined trains. On every side is a mounting demand for sheet metal.

Where would we be today if there were none but the old-fashioned hand mills to serve the greatly increased demand for sheet metal? The obvious point I want to make is that the invention and perfection of the continuous rolling mill is one of the bright spots in the development of the heating and ventilating business, as it is to the whole sheet metal world. Twenty-one of these new continuous mills have been built by the great steel companies, at a cost of more than $250,000,000. Today these mills are producing sheets at the rate of one ton every thirty seconds, and therein lies safety for your expanding industry—the volume production of the steel sheets so vital to the tremendous development ahead in the great air conditioning market. In fact, you are marching forward arm in arm with at least three great industries—the electrical industry, with its marvelous development and control of air heating, humidifying and moving equipment; the insulation industry, with its research and practical applications, and the steel industry with its almost limitless supply of sheets. This is a happy situation to be in.

New business—new houses—old houses remodeled! We are literally millions of houses behind in this country and more millions of actual remodeling jobs behind. Authorities agree that if we build as many houses each year for the next ten years as we built during our peak years, when we built 400,000, we would still be far behind the normal demand. Many years of real activity—the kind of activity that means full time operation, greater employment, and more profit—lie directly ahead of us.

It is true that with present equipment complete year-round air conditioning, particularly with mechanical cooling, is beyond the reach of many with modest incomes, but even under such conditions there is a great opportunity to capitalize the popular sentiment for air conditioning which the public regards largely as cooling. We know we can use a furnace blower to provide considerable comfort from the excessive heat during the hot days of the summer, so that even if a home owner is not in a position to put in a cooling unit, you can show him that you can provide a certain amount of cooling by a forced air heating system. All this goes to show the wonderful

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Abstract of a talk at the annual meeting of the National Warm Air Heating and Air Conditioning Association, Chicago, December 16.

opportunity that has come to the furnace industry because of the public clamor for air conditioning.

Then, too, there is a tremendous opportunity in the replacement of furnaces. I have received a copy of a recent survey made by one of the members of your association, which shows more than eight and a half million furnaces in use and a replacement market of at least two million of these furnaces.

With the outlook so promising for business, it would seem that if proper merchandising methods were employed there is not sufficient plant capacity to turn out more than one-third of the furnaces that would be required for the replacement market alone.

And here let me call your attention to the steel house, the development of which is now approaching over the horizon. This is the perfect, natural vehicle upon which air conditioning and heating may ride. It simplifies the whole problem of fitting these new conveniences and comforts into the home.

The fates have been kind to the heating and ventilating industry. The home market alone is enough to keep the industry busy for years to come to say nothing of the vast possibilities in the commercial field, stores, theaters, public buildings of all kinds. All these things will pile up volume and profit like the proverbial snowball rolling down hill. Is it any wonder we can point to the "Silver Lining"?

NATIONAL A. G. C. CONVENTION

The 18th annual convention of the Associated General Contractors of America will be held at San Antonio, Texas, the week of February 15. At that convention President W. A. Klinger of Sioux City Iowa, and Vice-President-at-Large E. P. Palmer of New York will be re-elected, having been renominated for a second term by governing and advisory boards. Under their aggressive leadership during the last year the Association has brought its membership to the highest total of record. Mr. Klinger was recently named a member of the U. S. Chamber of Commerce's government competition committee, through which he will pursue his campaign against "day labor."

MOVIE OFFICE BUILDING

Preliminary plans are being prepared in the office of Claude Beelman, Union Bank Building, Los Angeles, for a three story frame office building for Metro-Goldwyn-Mayer Studio, Culver City. The structure will contain 97,000 square feet of floor space and will cost $650,000.

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ORIGIN OF NAMES OF CALIFORNIA COUNTIES

TEHAMA COUNTY—Created April 9, 1856. "Tehama" is the name of a tribe of Indians which originally inhabited that part of the State which now bears its name. The meaning of the word never has been definitely determined. Some authorities claim it means "high water."

Tehama, in the northern section of the great Sacramento Valley, is a prosperous land of cattle and sheep, hay and grain and fruit. Of the County's total of 1,872,000 acres, farm lands cover approximately 1,200,000 acres.

While Spain was pioneering coastal California, hardy trappers, hunters and traders explored the Sacramento Valley and many of them settled in what now is Tehama. With forests and mountains on both the east and west and numerous streams, the soil of Tehama is exceptionally fertile and productive. The county, ranging in elevation from 200 to 8,000 feet, produces a wide variety of deciduous fruits, oranges and olives and a high quality mountain apple. About 2000 acres surrounding Corning are noted the world over for their production of the big black Sevillano olive.

Tehama is one of the foremost sheep and wool counties in the State. It boasts more than 150,000 head of sheep. Cattle, including about 5500 milk cows, total 38,000. Grain and forage crops spread over 50,000 acres.

Hunting and fishing attract many sportsmen from all parts of the State.

When mining was flourishing on all sides of Tehama in the early fifties, the town of Red Bluff was a community of 100 inhabitants surrounded by extensive stock ranges and farms. It was the head of navigation up the Sacramento river and thrived on trade with the mines. Today it is Tehama's county seat, prosperous and progressive and one of the best known cities in California. The town of Gerber, eight miles from Red Bluff, is a thriving railroad center and also has the largest alfalfa meal mill west of the Rockies. Los Molinos, Manton, Paskenta, Tehama and Vina all add to the general prosperity of the county. Population: 13,866. Area: 2925 square miles.

TRINITY COUNTY—Created February 18, 1850. This is one of the original twenty-seven counties. This county derived its name from Trinidad Bay, which was discovered and named by Captain Bruno Ezeta on June 11, 1775, a date that happened to be Trinity Sunday. The Spanish charts of the bay were misleading and Major Reading and others thought that the river he named Trinity entered into this bay.

High mountains, virgin forest, glacial canyons, em-

erald lakes, swift streams and incomparable scenery make up Trinity county, of which it has been said: "It is a moot point among those who have viewed the Swiss Alps, or the rugged splendor of the Fiords of Norway, whether any more superb landscapes or glorious sunsets reflected from the snowclad mountains can be depicted than those in the Trinity Alps."

The land is so little touched by industrial development that it is almost a virgin country. Of the total of 1,981,440 acres, about 75 per cent is covered by the Trinity National Forest, while the Shasta National Forest takes in the extreme northeastern tip. Trinity once embraced Del Norte and Humboldt counties. While trappers and hunters had penetrated sections of the county, it was gold that brought in settlers. They encountered many Indians, most of whom were friendly, but later clashes occurred which led up to the Bridge Gulch massacre on Hayfork Creek in 1852. Trinity now is the greatest paradise for hunters and fishermen in the west.

Trinity has yielded millions in gold and today, because none of its streams empty into tributaries of navigable waters, hydraulic mining is permitted. Since 1849 farming and stock raising have been successful in favored districts, particularly Hayfork Valley.

Tucked away in the Trinity Alps is Weaverville, county seat, 50 miles from a railroad. Befitting its eighty years, the town of 500 inhabitants leads a peaceful existence. In 1850 the population numbered 3,000, half of which were Chinese. Here is an ancient Chinese Joss House now maintained by seventeen surviving Chinamen. Its draperies and altar decorations were imported from China 75 years ago. Here, too, is the Trinity county courthouse, built in 1858. Population: 2809. Area: 3096 square miles.

TULARE COUNTY — Created April 20, 1852. Commandante Fages, while hunting for deserters in 1773, discovered a great lake surrounded by marshes and filled with rushes, which he named Los Tules (the tules, Scirpus lacrustus). In 1813, Captain Moraga on his exploring expedition passed through the valley of this lake, and named it "Valle de los Tules" (valley of the tules), from which this county took its name.

Home of the great Sequoia and General Grant national parks and Mount Whitney, whose summit is the highest point in the United States, Tulare also is noted as one of the wealthiest farming counties in the nation. Approximately 100,000 acres are planted to deciduous fruits and grape vines. Kaweah, Tule and Kern rivers and Deer Creek furnish abundant water for irrigation and have been harnessed for generation of electric power.

The raisin is Tulare's outstanding crop with peaches, olives, prunes, figs, plums, apricots and walnuts in the order named. About 1,193,000 acres are given over to farming, making Tulare rank sixth in the State. It is second in acreage irrigated.

(To be concluded in February issue)

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LE BRUN COMPETITION

The executive committee of the New York Chapter of The American Institute of Architects, as Trustees of the Traveling Scholarship, founded by Pierre L. Le Brun, announces a competition for the selection of a beneficiary. The program is now available and drawings are to be delivered March 15th.

The following excerpts from the Deed of Gift explain the award and conditions:

"Fourteen hundred dollars . . . is to be awarded, . . ., to some deserving and meritorious architect or architectural draughtsman, resident anywhere in the United States, to aid him in paying the expenses of an European trip, lasting not less than six months."

"The selection of the beneficiary of the Scholarship is to be by means of a competition . . . and the drawings called for . . . are to be submitted for examination and judgment to a jury consisting of at least three practicing architects, no one of whom is to be connected with any school or atelier for the teaching of architecture. In making the award the jury is to give a full and careful consideration to the records of qualification filed by the competitors as well as to the comparative excellence of the drawings submitted."

"Any architect or architectural draughtsman, a citizen and resident of the United States, not under twenty-three or over thirty years of age, who shall, for at least three years, have been either engaged in active practice, or employed as an architectural draughtsman and who is not and has not been the beneficiary of any other traveling scholarship, shall be eligible to compete."

"Every competitor must be nominated by a member of the American Institute of Architects who shall certify in writing that the above conditions are fulfilled and that in his opinion the competitor is deserving of the scholarship. No member of the Institute shall nominate more than one (1) candidate."

"Every competitor must engage to remain, if successful, at least six months abroad and to devote well and truly that length of time to travel and the study of architecture otherwise than by entering any school or atelier or attending lectures, it being intended that the benefit derived from this traveling scholarship shall supplement school or office experience."

"The successful competitor shall write from time to time, but not less than once every two months, to the New York Chapter of the American Institute of Architects, giving an account of the employment of his time."

Those wishing to enter the competition should arrange at once for nomination by a member of The American Institute of Architects. Nomination blanks may be obtained from the secretary of any chapter, or from the Le Brun Scholarship Committee.

GENERAL GRANT COTTAGE FOUND

While scouring the area around Gravelly Lake, Tacoma, incidental to getting ready to prepare for enlarging the Williver residence, Silas E. Nelsen came upon a small house which is reputed to have been occupied by General U. S. Grant while he, as an army captain, was engaged in laying out the Military Road. —Pacific Builder and Engineer.

NEW STUDIO

Donald Dwight Williams, architect of Seattle, has completed new offices in the Textile Tower, business center of Seattle, Washington.

STATE HIGHWAY OFFICIALS MEET

More than 700 delegates from forty-four states attended the 22nd annual meeting of the American Association of State Highway Officials in San Francisco the week of December 7.

T. H. Cutler, state highway engineer of Kentucky, was elected president of the Association for 1937. Vice-presidents are J. V. Keily, chief of the Rhode Island Division of Roads and Bridges; R. A. Harris, state highway engineer of Mississippi; Ernest Lieberman, chief highway engineer of Illinois; James B. True, state highway superintendent of Wyoming.

A number of resolutions were adopted at the closing session, one of which recommended changes in the methods of hiring labor for highway construction to permit the contractor to build up his regular crews on Federal projects and all other projects on which Federal aid or emergency relief funds are used. Federal regulations governing employment of labor have been responsible for higher costs on contract work. It was stated in support of the resolution that if contractors are allowed to engage skilled and intermediate grade labor directly they will be able to train younger men to take the place of skilled workers as they retire or transfer to other crafts now threatening to create a serious labor shortage. Change in the rules to permit a maximum working month of sufficient hours to give labor employed on seasonal highway construction a reasonable annual income, was also recommended.

Other resolutions adopted—

Recommend utilization of state highway departments as the agencies of expending secondary road appropriations.

Acknowledge appreciation of Congress' appropriation for continuing Federal aid;

Request that any future work-relief funds appropriated for highway construction be expended through the Bureau of Public Roads and State Highway Departments;

Recommend copyrighting of the emblem used for marking United States numbered highways;

Advocate continued cooperation with Central American countries in construction of the Pan-American highway;

Endorse the Pacific Coast highway proposed from Fairbanks, Alaska, to Santiago, Chile;

Ask a change in the method of advancing Federal aid appropriations to states.

President Gibb Gilchrist of Texas in his annual address said in part:

"The best opportunity for long range planning ever offered became the lot of the states in 1936. The advantages of long range appropriation are too many to enumerate. More time is given to location; more time is given prospective bidders to examine the proposed work, with the result that bids will be submitted

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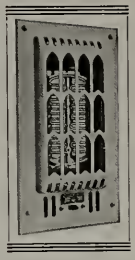
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with less hazard and more time given to construct where such time is needed.

"The states are ready for this kind of thing and the entire country is sold on the principle of regular Federal aid. If I were giving advice to highway officials it would be to plan the construction programs at one time not less than four years ahead and carry general layouts much further."

Other subjects covered by Mr. Gilchrist included the growing problem of improvement of secondary roads, diversion of highway funds to non-highway uses, safety in highways from the engineering and enforcement viewpoint and the improvement of highway rights-of-way through roadside beautification and elimination of signs that detract from, or obscure, the natural beauty of the adjacent area.

"But what has been lost in quantity might be said to have been largely regained in quality. The various relief programs have undoubtedly benefitted the states in many ways. Designs have been improved by larger experience. Our engineering organizations have been generally improved and they have a feeling of confidence that has not always prevailed.

"Good roads are one of the nation's chief assets and states have come to be judged, in a measure, by the progressiveness with which they handle their road problems. Taxes are collected from the motorist on the sound theory that a system of good roads is essential to social, commercial and industrial progress. It would be an idle contention to argue that the motorists would submit to the heavy levies they now bear for purposes other than highways and it would be a brave 'diversionist' who would be willing to submit his question to popular vote. Past diversions have crippled highway programs and strong steps should be taken to guard against further disruptions from this source."

LANDSCAPE ARCHITECTURE

An exhibition of landscape architecture will be held February 5 to March 22 at the San Francisco Museum of Art, War Memorial Building, under the auspices of the Pacific Coast Chapter, American Society of Landscape Architects. Exhibitors are requested to submit their entries by Saturday, January 23 to Grace L. McCann Morley, director. Purpose of the exhibition is to illustrate tendencies in modern non-period garden design with its historical sources and background as exemplified in the development of landscape architecture from the earliest period to the present.

HOWARD J. WHITE

Howard Judson White, 66, internationally known architect, died December 18. Mr. White was the designer of the Field Museum, the Wrigley Building and the Union Station in Chicago, the Chase National Bank in New York, the Union Station in Cleveland and the Selfridge Stores in London.

OIL BURNER EXPOSITION

The National Oil Burning and Air Conditioning Exposition will be held in Philadelphia March 15th to 19th. Displays will feature the newest oil burner, distillate and air conditioning equipment produced by leading manfacturers for domestic, commercial and industrial application. Fuel oil companies and accessory manufacturers will also show.

Committments have been signed by 25 manufacturers, including the S. T. Johnson Company of Oakland, for 77 spaces representing over 40% of the available booths. Contacts are being made with members for space allotments as fast as possible according to the customary rotation. Practically every firm contacted has taken space, in most cases more space than previously used. A number of firms that have not yet had an opportunity to inspect the official layout have wired tentative reservations.

Recent formation of a joint committee on cooperation, headed by J. J. Donovan, General Electric Company, indicates that for the first time the air conditioning manufacturers association is officially participating in the program with the Oil Burner Institute, sponsor of the show.

Re-establishment of an Oil Burner Institute membership division for accessory manufacturers, after a four year lapse, has eliminated the haphazard requirements under which such exhibitors formerly participated. The result has been to assure strong representation of this group.

Although still in the formative stage, the convention program will be the most complete to be offered in the fourteen-year history of the show. A thorough study has been made of previous activities with a view of strengthening certain sections. Sessions will be arranged for each technical division of the trade and no effort spared to make them authentic, informative and generally worthwhile.

Radio broadcasts have been tentatively arranged for the purpose of providing authentic up-to-date information to the public on modern oil heat and air conditioning practices. These are in connection with speaking schedules arranged for the public at Convention Hall, adjacent to the exposition.

This is the third time in 14 years that the industry has chosen Philadelphia as the show site. It is one of the industry's finest markets, with 53% of the families owning their own homes.

REESE LLEWELLYN

Reese Llewellyn, for many years president of Llewellyn Iron Works, Los Angeles, died recently in New York of heart disease. He was 74. With his brothers, Llewellyn J. and William Llewellyn, he founded the first sheet and plate steel mill on the Pacific coast. He retired from active business in 1929 after 40 years at the head of the concern.

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ARCHITECTS AND FEDERAL WORK

Architects and government officials are developing a plan to open the field of public architecture to private practitioners, according to Stephen F. Voorhees of New York, president of the American Institute of Architects.

Adoption of the scheme will, it is expected, end the long controversy between the profession of architecture and the Treasury Department which has provoked repeated charges of "bureaucratic domination of the arts", Mr. Voorhees said.

The invasion of the sphere of private practice by bureau or official architecture, state and Federal, has created a serious professional problem which also affects national standards of design, declared Mr. Voorhees, deploring the refusal of the New York state authorities to permit creative artists outside the Department of Public Works to participate in the design of the proposed War Memorial Building in Albany.

"The active support of architects in local practice is necessary not only to solve the national problem but to an even greater extent the local problem," said Mr. Voorhees, who is chairman of the board of design of the 1939 New York World's Fair.

"The private practitioner has felt very definitely the operations of the office of the supervising architect in Washington. This office engages in the design of public buildings rather than commission architects in private practice to perform this function.

"The Institute hopes to evolve a plan, on which its committee on public works and representatives of the Treasury Department are now working, that will provide for the employment of architects in private practice on government buildings.

"The expanding practice of governmental architectural bureaus is not confined to Federal projects. State architectural bureaus are also invading the field of the architect. For example, in the state of New York a War Memorial Building for which subscriptions are to be obtained

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from the public has been given to the state architect by the building commission.

"All of the Chapters of the Institute in the New York Region have vigorously protested this action and are actively pressing for a change in this procedure looking to an architectural competition among architects in private practice. The problem is a complex one but it can be solved if representatives of government and of the architectural profession will recognize that there is a field for both the architectural bureau and the private practitioner and define those fields and the relationships which result.

"Another very definite local problem is the rendering of architectural services to the owners of moderate priced houses. The Institute committee on housing has this matter actively in hand, and several groups of architects in different parts of the country are now trying to meet the situation.

"The Institute, recognizing the definite local character of this problem, has taken no specific action as to any particular plan but has urged all the groups to work out a principle best fitting the needs of each community. After a period of experimentation, it is hoped that certain principles may be evolved which will have national application. Experiments have been made in both large and small communities. The results thus far are most encouraging."

EXTERIOR PAINTING

Careful study, particularly of color problems, should precede exterior painting. It is well, as a rule, to let personal taste upset sound judgment. There is no fixed style treatment of the modern house. The tendency is toward white as a body color, relieved by shutters of bright green. Roofs are inconspicuous, with distinct trend to dark gray. Trim, sash and body show the same color, contrasting with the more showy ideas of two or three decades ago. As a point of focal interest, front door may get distinctive treatment. Selection of color scheme depends much on surround-

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ings, both in contour of country and local trends. As color affects impressions of size, small houses look better in light shades and the lines of houses set among heavy foliage or trees are lost if in dark colors.—Ex.

RESIDENCE LIGHTING

Home-makers advance in style-consciousness everywhere. It appears all along the line, from house architecture to kitchen pots and pans. Lighting has made notable strides in scientific application and its fixtures join naturally in the style trend. Direct and semi-indirect illumination comes from designs of simplicity and taste. Glassware has good diffusing quality, reducing brightness. It is tinted slightly to give that softness so pleasing in the home. Crystal and mirrors bring striking effects. All light bulbs are concealed. Plastic materials, in bewildering forms and shapes, make efficient fixtures with minimum glare, as surface brightness is low and reflection factor high, cost being reasonable and breakage almost negligible. Built-in and cove lighting gets lumiline lamps. Chromium wall brackets are decorative, with exposed lamps giving fine service at dressing mirrors, in bathrooms, some with adjustable reflectors, colored rays. Many new adapter units rehabilitate old equipment for those who cling to its associations. Plastics in ivory and white screw into single sockets to spread semi-indirect light from a lantern, rosette or any artistic concept. Portable lamps in growing profusion give art and the best lighting to any spot in need of special attention.

—Building Management Digest.

FREE ARCHITECTURAL SERVICE

The executive committee of the Philadelphia Chapter, A. I. A., at its last meeting, took formal notice of the increasing tendency on the part of certain manufacturers of building materials to offer free architectural services in connection with the use of their products.

Convinced that a continuation of this practice on the part of these

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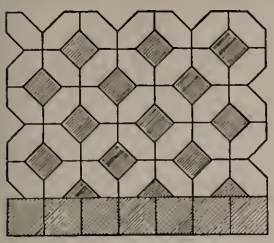

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manufacturers will seriously jeopardize the architect's position in the eyes of the uninformed public, the executive committee of the Chapter passed the following resolution:

"Whereas, It has been brought to the attention of the executive committee of the Philadelphia Chapter, American Institute of Architects, that numerous manufacturers of building products are providing free architectural services in connection with the use of their products, and

"Whereas, This architectural service can only be of limited scope and not of a comprehensive nature, and

"Whereas, By the acceptance of this service the client is bound to use the product of the manufacturer without the opportunity of considering other products which may be equal or of superior quality, and

"Whereas, The client is given the impression that the costs of architectural services are saved,

"Whereas, In reality these costs are necessarily added to and included in the cost of the completed product, now therefore

"Be It Resolved, That the Philadelphia Chapter, American Institute of Architects, declare itself opposed to the maintenance of Architectural Departments for the preparation of free sketches, designs and working drawings by Building Material Manufacturers, in order to promote sales of their products."

NOW LOS PADRES

Change of the name of the Santa Barbara National Forest to "Los Padres" became official when President Roosevelt signed the executive order recently. This will settle an argument among the six counties concerned (Los Angeles, Kern, Ventura, Santa Barbara, San Luis Obispo and Monterey), carried on since President Theodore Roosevelt in 1903 renamed the Santa Ynez and Pine Mountain and Zaca Lake Forest Reserves the Santa Barbara National Forest.

Agreement was finally reached among various chambers of commerce and county boards of super-

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visors to a name commemorating the work of the Mission Fathers, many of whose churches are found in Los Padres National Forest from Santa Barbara to Monterey. Both San Luis Obispo and Monterey counties formerly had separate national forest units named after them. The San Luis Forest became part of the Santa Barbara in 1910 and the Monterey was made a ranger district of that forest in 1919. Since then it has been felt that the name "Santa Barbara" did not truly represent the two million acres of land embraced in the national forest.

NOTES AND COMMENTS

(Concluded from Page 7)

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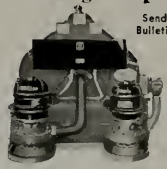
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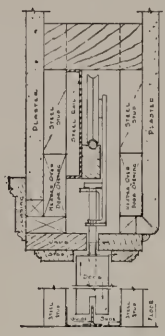

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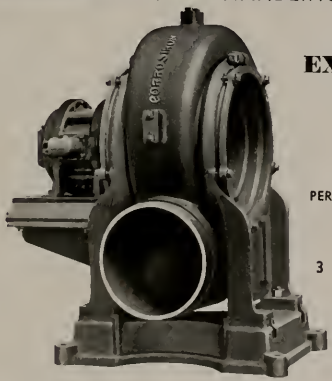

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The interiors follow the French period. There is a library paneled entirely of wood, a stair of wrought iron and brass, and a high ceiling living room finished in soft pastel shades of pale gray-green and putty. A children's social hall is in one wing and is much more informal in design, with a high cathedral ceiling of wood. It opens into a play yard with a small pool of filtered water.

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William Merchant

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Notes and Comments

SPONSORS of the exhibition of landscape architecture now being held at the San Francisco Museum of Art, are to be congratulated for putting over one of the most ambitious shows of the kind heretofore attempted in California. Leading landscape architects of the East and California have contributed models, renderings and plans of their best work. These, with the works of eminent sculptors, the historical reconstructions and the vast miscellany of other material, reveal the whole subject of gardens in a most interesting and unforgettable manner.

It is the first exhibition of its kind and may have a distinct effect upon garden design of the future.

In juxtaposition with the gardens of China and Japan, Persia and Egypt, France and England, Spain and Rome, from ancient times through our own Colonial period and right up to the present day, these modern gardens reveal with startling clarity how our lives and thought have changed. No longer intended for princes, the gardens of the present and immediate future show no vast estates nor grandiose formalities. They are constricted in space, economical in their requirements of upkeep. Many are city gardens; some are for apartments; some are penthouse gardens. But to our modern tastes these have lost nothing in beauty, for they make up for lack of grandeur in their ingenious accomplishment of comforts. They are as usable as one's own living room.

The exhibition will continue through March 22, after which it will be sent on circuit to important museums throughout the United States.

* * *

"THE new year brings promise of a great forward surge in home building," Bennett Chapple recently told his NBC Blue network audience.

Mr. Chapple emphasized that architects have been anticipating the time when this new demand would come, that they have been busy seeking and finding new solutions for old problems, and that industry has anticipated requirements for new building materials.

"Methods of construction have been improved," he said. "Everywhere they are using old materials in new ways, and making wide use of entirely new materials. The houses of today, artistically designed by our architects and skillfully erected by our builders, are things of beauty — bright, cheerful, roomy homes."

* * *

SIR RAYMOND UNWIN, former chief architect to the British Government, offers a new argument in defense of a movement to discourage the building of more skyscrapers in America. He is quoted in the Bulletin of the Michigan Society of Architects, as saying before the architectural students at the Massachusetts Institute of Technology:

"There is seldom reason for building skyscrapers. Naturally, in planning a city one has to make the best use of the terrain at one's disposal but in this modern day, if traffic facilities can be speeded up, the area of the town or city designed does not really make very much difference."

The British expert stressed importance of a rebuilding plan for all cities "new or old."

"Then all the new projects undertaken in that city would be made to fit into the conceived plan," Sir Raymond said.

* * *

THE New York Times-Herald, in a recent issue, contained this interesting announcement:

"An American architectural magazine and a similar British periodical will be published in March under the direction of two "exchange editors" who are anxious to have their respective readers know of architectural advances on the opposite side of the Atlantic. One of them, the American, modestly hesitates to predict that he can do "as fine an accomplishment" as the British job is likely to be; the Briton, after threatening to "knock spots off you," admits an apprehension that "we shall in the end find that you have knocked spots off us."

The American publication in question is "The Architectural Record" while the English magazine is "The Architectural Review," published in London.

* *

AMERICAN art, sometimes called an adolescent step-child in its own country, is giving a substantial account of itself under the patronage of the Federal Government, which is employing 5,000 artists and craftsmen to conduct a public works art program based upon the same fundamentals upon which Pericles produced some of the deathless beauty of ancient Greece. Under this plan, native American art is receiving a new complexion.

The growth of the fine arts in the flourishing years preceding the depression paralleled somewhat the advance of industry. In the closing years of the last decade, oils were selling well and exhibitions were enthusiastically crowded with spectators. By 1932 all came to an abrupt halt; Americans were too busy caring for the shreds of their savings and looking to the stern business of supporting their families during bad times. In the wake of this, artists were forced to adapt themselves to new types of work and without the means or time to pursue their chosen profession.

For governments to patronize the arts in good times or bad is by no means a new idea. Governments of every age and of every part of the world have employed artists — Egypt, Greece, Rome, Florence, Russia, Mexico, Austria and France.

Even the "golden days" of Greece, the Pharaohs of Egypt and Kings of Babylon instituted huge works programs which employed thousands of artists and craftsmen. In later years kings and princes carried the majority of art patronage.

In our times this fostering has by no means died. The French Government has pursued a liberal policy towards encouraging art and art education which has made France famous throughout the world. Great Britain has taken steps to foster the arts, as have Germany, Italy and Russia. Sweden has contributed to the industrial arts by an unique program of government-supervised crafts.

And so today artists look with confidence to a movement that may take the uncertainty from the rewards of the arts. And, despite the salty cynicism of an ancient bard who said "Hunger is the best teacher of the arts," the profession of being an artist will some day be as sound as the painter's industriousness and as remunerative as the demands for his ability.

* * *

With the Post Office Department now reporting receipt of 22,129,617 employee account number applications for participation in the Federal old-age benefits program of the Social Security Act, a breakdown by states shows New York, with 3,433,631 applications, at the top of the list, with California running fifth.

Workers in seven of the leading industrial states account for more than half of the total applications, with New York first, and Pennsylvania second with 2,165,478. The next five are: Illinois, 1,680,059; Ohio, 1,469,837; California, 1,324,928; Massachusetts, 1,189,203; and Michigan, 1,109,435.

LANGLEY SCHOLARSHIPS

Details of the Edw. Langley A.I.A. scholarships for architects, draftsmen and graduate students, are announced in the January Octagon. The Sierra-Nevada District will be entitled to three nominations, two from architects' offices and one from a college or university. Albert H. Evers, Regional Director of the Sierra-Nevada District, has detailed information.

View in planetarium, showing interior of dome and telescope for study of the planets.

JOHNSON
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Temperature and humidity in the Franklin Institute are governed automatically by a comprehensive Johnson System. This famous institution is thoroughly modern, not only scientifically and architecturally, but mechanically as well. Several hundred direct radiators are Johnson-controlled, as are the seven supply systems for ventilation, the dampers at exhaust fans, and the cooling of the planetarium portion of the building . . . . Whatever the control problems in heating, cooling, ventilating, and air conditioning, Johnson equipment is the answer.

The Franklin Institute of the State of Pennsylvania, Philadelphia. John T. Windrim, architect: I. H. Francis, mechanical engineer: W. W. Muench, heating contractor: York Ice Machinery Corp., cooling equipment. Photographs by Gladys Muller.

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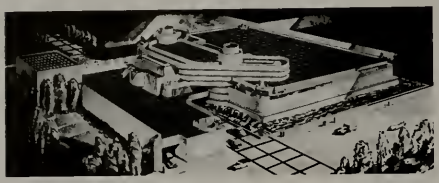

1

FACTORY AND OFFICES

I—Frank Lloyd Wright, famous for his architectural creations, has just completed his designs for a new office building at Racine, Wisconsin, for S. C. Johnson & Son, Inc. Like most of Mr. Wright's buildings, the design and plan are original and unique.

The plan centers around one large workroom, measuring 210' x 130', to house several hundred employees. The ceiling is 20' high. Girdling this room is a mezzanine gallery close to the first floor on which are located the offices of department heads and junior executives. This unit is clearly shown in the accompanying picture. The one-story structure to the left is the "car port", a commodious roofed-over car parking lot.

Exterior of the building is of red brick, of a special size, 3 x 9 x 2¼. Horizontal lines are accentuated by wide, horizontal mortar joints raked out to a depth of one-half in. and blind vertical joints of mortar the color of the brick. At a level six feet above the floor a band of tubular glass encircles the building, while a second band follows the rim of the ceiling. There will be no exterior openings in the building except the chambered entrance doors.

The interior will show no effort to conceal the structural members of the frame. The nature of the plan is fully revealed. The exterior face brick is also used on the interior walls. The great flat expanse of paved roof will be supported by a series of slender concrete monolithic shafts with shallow, wide-spreading tops, umbrella in effect—the shafts standing tip-toe on bronze crowfeet bedded at the floor level.

Construction is on a horizontal unit system 20' on center both ways and a vertical unit of 3½" brick course. The building is designed to be fireproof, 'quake resistive and soundproof.

2

SANTA FE TERMINAL

D—The Santa Fe Railway System's proposed new rail and bus terminal, pictured here, is somewhat of a disappointment to those who anticipated a building of exceptional interest and character to occupy such a prominent locality as the site of the old Argonaut Hotel in the heart of San Francisco's business center.

The perspective shows two street frontages—one on Fourth Street and the other on Pioneer Place with 29,000 square feet of garage space in the basement; ticket concourse, waiting and rest rooms on the first floor and executive offices and baggage department on the second floor. Plans call for a steel frame and reinforced concrete structure with exterior of terra cotta tile. An attractive color scheme may help to bring out the design and give it a less uninteresting appearance.

3

MEDICO-OFFICE BUILDING

T—This good looking medical building, modernly designed and equipped, has recently been completed at Beverly Hills, California, for Dr. Raymond L. Watt. The design is by John W. Spellman. One story and basement, the 11 room structure was planned to answer the particular needs of its owner in the practice of medicine and surgery. Besides offices and consulting rooms, there are operating rooms, X-ray laboratory, etc.

The building is equipped with an automatically controlled gas furnace which provides correct temperature at all times.

JAY PALEY HOUSE, BEVERLY HILLS

PAUL WILLIAMS, ARCHITECT

An original and interesting treatment of a tiled swimming pool, with decorative feature incorporating the signs of the Zodiac in brilliant colors, created by our Designing Department. The walls and floor are blue green, offset with a darker shade of the same color around the gutter. The steps are of yellow ceramic tile.

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Photo by Gabriel Moulin

EXECUTIVE OFFICE BUILDING, GOLDEN GATE INTERNATIONAL EXPOSITION, SAN FRANCISCO

WILL P. DAY, ARCHITECT

GENERAL VIEW OF GOLDEN GATE INTERNATIONAL EXPOSITION
AS VISUALIZED BY CHESLEY BONESTELL

In the immediate left foreground is a 110 foot causeway, serving as a boulevard approach from the San Francisco-Oakland Bay Bridge. At the right is Exposition Harbor which will be used for marine regattas.

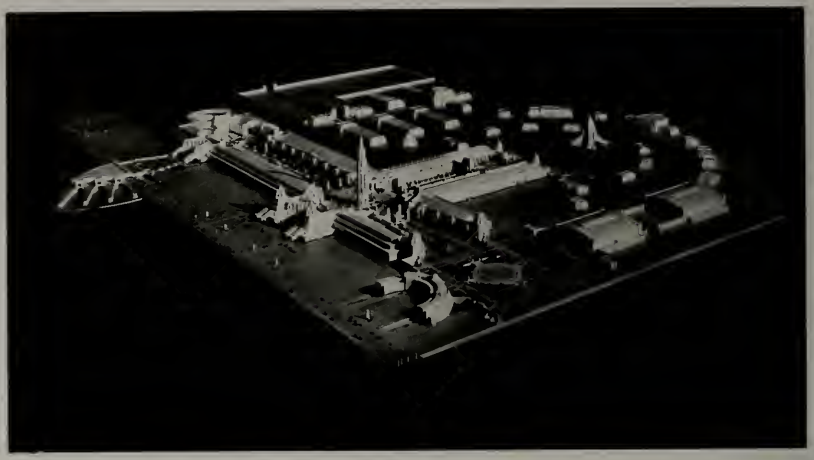
ADOLESCENCE OF AN EXPOSITION

A COMPROMISE BECOMES A CONQUEST

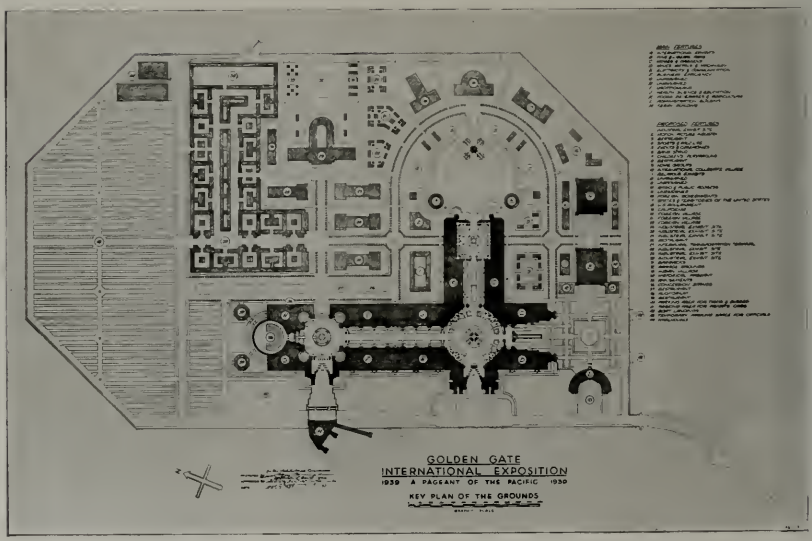
by Harris C. Allen, A. I. A.

THE Golden Gate Exposition is having growing pains. It has been weaned and diapered and pulled through the periods of colic and mumps, and its frame and physiognomy are generally established; you can tell fairly well now what it will look like from a distance, you can see a bit of family likeness here and there, a touch of Father and Mother and even Great-Uncle Adam. But its features are still changing, and its complexion is clearing, and after adolescence, for all we know, it may yet coin a prize at a beauty show—or at least an award for physical culture.

It can be taken for granted, no doubt, that the "Key Plan of the Grounds" is essentially correct and that there will be no material change. Reproductions of models and draw-



MODEL VISUALIZING EXPOSITION AS IT WILL APPEAR UPON COMPLETION



KEY PLAN OF GROUNDS, GOLDEN GATE INTERNATIONAL EXPOSITION

MAIN ESPLANADE, GOLDEN GATE INTERNATIONAL EXPOSITION, AND TOWER

George W. Kelham, Architect
Arthur Brown, Jr., Architect

EXPOSITION COURT—SUGGESTED NAME, "COURT OF THE FOUR WINDS"

Miller and Pflueger, Architects

COURT OF THE EAST, GOLDEN GATE INTERNATIONAL EXPOSITION

LEWIS P. HOBART, ARCHITECT

ings are not to be taken too seriously, however, for proportions and details can be, and doubtless in many cases are being, so carefully studied and modified that the final effect may be decidedly different.

UNIFIED PLAN

The plan appears to meet the various requirements and problems remarkably well, and in addition it has the vital merit of unity, which was lacking in the recent Chicago Fair—the Century of Progress— and which is not very evident in the published scheme for the New York Fair of 1939. This plan is not only well knit, it has form and balance, and a certain amount of symmetry. It has two great major axes and several minor connected axes, which are all logical and shou!d be effective.

Two main governing conditions were, (1) the necessity for airdrome buildings at the south end, and (2) ferry slips far enough north to permit proper landings. To have put the main cross axis on line with the ferry building would have provided a larger area sheltered from the prevailing west and north winds, but it would have unbalanced the plan more, and lost the opportunity for a grand main accent on the western side, toward the water, the bridges and the city.

IMPOSING TOWER

And the western facade is surely in the grand manner. It has the heroic mass and austere magnificence of the ancient Mayan and Babylonian temples, as archaeologists have reconstructed them. It will be noticed, incidentally, that the scale of this rugged, almost brutal grandeur appears, in the views shown, to be consistent throughout, with the striking exception of the lofty tower at the center of the two main axes. Perhaps this contrast is intentional. And perhaps the sheer size of the tower (385 feet high) will counteract the attenuated effect suggested by the model. But it is startling, to say the least, to find a quite charming spire a la Christopher Wren torn from its sturdy base and lifted into the sky on long, slender stilts.

However, it was not my intention, and it is not in order, to comment at this time upon architectural details. We may leave that to the later showing of the Exposition in its completed form. Rather is it fitting now to make general comments upon the determined scheme, the relationships of buildings, courts, exhibits and amusements.

For the convenience of the public (which includes protection from the winds that sweep in through the Golden Gate) the attractions of the Exposition have manifestly been well calculated. All the main exhibit buildings, and the great amphitheater, 300 feet in diameter, are continuously grouped, connected by sheltered and spacious courts. Some approximate figures may not be amiss. The exhibit buildings cover a space 600 by 2800 feet, north-south, and 550 by 1600 feet, east-west. The northern court—although no names have been officially assigned, this has been tentatively called the Court of the Four Winds—is 350 feet square. From it a great court, like an esplanade, which might be called "The Street of the Ships," 200 by 1000 feet, goes to the central court, a circle 550 feet in diameter surrounding the Exposition Tower. To the south an open court leads to a formal garden; to the east, an avenue court 200 by 400 feet, brings one to another square, 320 by 320 feet, in which an elaborate fountain is the special feature.

600 FOOT LAGOON

Outside the main building group, but closely tied to it in plan and design, a lagoon some 600 feet long affords a center for sports and celebrations, fireworks and the like. Here there is a suggestion of the Orient, with a terminal pavilion, 165 feet high, on the order of the Schwe Dagon Pagoda or the Ancor Wat. It should be noted that the view of this pavilion does not show six 50-foot pylons which are to flank it, curving around the east end of the lagoon, and on festive nights will become huge torches or flambeaux, spouting fiery vapor.

Separated from the main group are exhibits of separate interest — the Arts, International, Governmental and special industrial

ONE OF TWO $400,000 HANGARS TO BE USED AS AN EXPOSITION PALACE, GOLDEN GATE INTERNATIONAL EXPOSITION

George W. Kelham, Architect

exhibits. Amusement concessions are grouped to the north, significantly adjacent to the parking area. This space will undoubtedly go through many transformations.

After the tumult and the shouting have ended, the Administration Building and the two Hangars will remain for the San Francisco Municipal Airport, as mementoes of the Golden Gate Exposition and its first architectural chief, the late George W. Kelham, A.I.A., who also designed the long central court and the open southern court. He has been succeeded as head of the Architectural Commission by Arthur Brown, Jr., F.A.I.A., designer of the circular court and the Exposition Tower. Timothy Pflueger, A.I.A. (Miller & Pflueger) is architect for the northern court and Auditorium; Ernest Weihe, A.I.A. (Bakewell & Weihe) for the western facade with its gorgeous gateways "To the Setting Sun,"; Lewis P. Hobart, A.I.A., for the two eastern courts and William Merchant for the lagoon setting. (See cover).

COURT OF NATIONS, GOLDEN GATE INTERNATIONAL EXPOSITION

Lewis P. Hobart, Architect

LANDSCAPING FEATURED IN PWA HOUSING

PROVISIONS MAKE FOR HEALTH, SOCIAL WELFARE

TODAY, with the world alive to the needs of underprivileged, decent housing has come to mean something more than adequate shelter. Whereas in the "good old days" it involved nothing more than four sound walls and a sturdy roof, it now embraces those community and neighborhood services which are conducive to healthy environment and good citizenship. These include healthful and attractive surroundings, adequate recreational outlets and satisfactory transportation and educational facilities.

It is under this broader conception of the home that the Federal Administration is pursuing its $130,000,000 housing program for families of pinched income. In lending unity and coherence to these developments, landscape work is playing a prominent role.

Furthering the philosophy of economical construction, PWA projects are simple and utilitarian in architectural design. The skillful use of shrubbery and trees called for in the landscape treatment, however, eliminates any suggestion of plainness and severity. In this way the landscape architect supplements the building architect in attaining an attractive finished and complete effect, at a modest cost.

Departing from common multi-family housing practice, which calls for as great a coverage of land as local building codes will permit —often as high as 80 percent—buildings in 50 Public Works projects now under way, in no case take up more than one-third of their areas, and in most instances cover less than one-fourth. The remainder of the land is being put to fullest utility by landscape architects who are developing among other things small parks, private gardens and central recreational facilities, all of which serve to blend the out-of-doors with the buildings to provide a well balanced setting.

In preparing plans and specifications for a community, the building architect, the landscape architect and the city planner must all collaborate, for just as the building units are but part of the general project design, so the project is but part of the general city design.

When formulating the site plan, blocks of wood are often used to represent various types of buildings in convenient scale. In studying the site layout, these blocks are moved about in domino fashion to determine the most desirable building arrangement. This method makes it possible at a preliminary stage of development to arrive at an effective relationship between buildings and open areas.

Many factors affect the landscape theme. For one thing, topography of the land largely dictates development and design. On a hilly site, the landscape architect is confronted with three major considerations, which are not present in such a degree on level ground; they are drainage, accessibility and recreational space.

Unless adequate provision is made, rainfall will ruin a hilly site, by causing topsoil wash-outs and water gullies. Sudden floods, which have become a real national menace, are poignant proof of what haphazard drainage will do. To prevent these devastating washouts and gullies terracing is resorted to, with retaining walls and catch-basins being erected.

However, level sites are not without their drainage problems either. Water, for obvious reasons, cannot be allowed to stagnate in puddles, so the landscape experts are grading the open areas down to the project sidewalks. These walks in turn serve as concrete channels over which rainwater flows either to catch-basins or out into the city streets and thence to the sewers.

A steep grade, naturally enough, makes accessibility difficult. In Cleveland's West Side project, which is a typically hilly site, a so called loop service drive has been innovated. This interior street, following the contour of the land, makes the dwelling units easily accessible. Regardless of the topographical nature of the site, it is one of the problems of the landscape architect to lay out walks and malls so that tenants can easily reach any part of the project without crossing lawns. Care of the lawns, incidentally, has been provided for by the location of spigots in such manner that a hundred foot hose can adequately water the grass and shrubs.

Allowance must be made for recreational space in the site plans. Since it would obviously be impractical to lay out a playground on a hill, areas are leveled off for that purpose. The play areas are generally of two types. First is the small one for children of pre-school age, usually visible from the windows whence mothers may watch their frolicking youngsters. The typical equipment consists of sandboxes, low see-saws and kindergarten slides. The surfaces are of a durable material easily obtainable in the locality. In Jacksonville crushed sea-shells are used; in Cleveland it is bank-run gravel, which is a mixture of clay and gravel taken from the vicinity and placed in the project in its natural state. These areas are purposely built small to discourage older children from monopolizing the grounds with their more vigorous games. For these older children there should be athletic fields, if there are no public facilities in the neighborhood, such as city parks and school gymnasiums.

Outdoor development and design are to a great extent shaped by local conditions and practices. It would be just as incongruous to build group houses in Harlem as it would be to erect four-story walk-up apartments in Charleston, South Carolina. It would not be in keeping with the characteristics of the locality or the taste and needs of its people. Since the type of building and the density of population affect land use, it is clearly seen that landscape plans are determined by local custom and need. Individual gardens, for example, would be impractical for apartment occupants and highly desirable for group house residents, while the opposite would generally be true about community laundries. Backyards are being laid out for gardening, but subsequent garden development depends entirely on the tenant.

Selection of trees and shrubs is dependent on climate, service and durability. Short-lived plants or shrubbery which are expensive to maintain have no place in government housing projects. They must be sturdy and durable, and in the case of trees must afford ample shade. As a result, a varied array ranging all the way from palm, coconut and date trees in the semi-tropical south to evergreen firs and spruces in the northern reaches of the United States, is being planted or preserved.

Taking full advantage of nature's bounties, the landscape architect often weaves existing features of the terrain into the outdoor pattern of the project. Thus, a natural hollow near the banks of the Harlem River in New York City has been converted into an amphitheater for occupants of a PWA housing development, and in the Lexington, Kentucky, project the motif is two central meadows, rich in Kentucky's renowned blue grass, which will be allowed to lie fallow.

Unquestionably, landscape work is now a fundamental requisite of decent housing and an even more important role in the future is envisaged by many. Herbert W. Schmitt, Principal Landscape Architect of the PWA Housing Division, has this to say on the subject: "Contrary to popular belief, the landscape architect is not merely an exalted gardener nor is landscape work a simple matter of bush planting. Something greater is involved, the health and social welfare of the community. The flower pot on the fire escape belongs to the area of the 12-hour working day."

A STREET IN TRIPOLI

WOMEN'S SPORTS SHOP, ROOS BROS., SAN FRANCISCO

WILLIAMS AND GRIMES, ALBERT R. WILLIAMS, ARCHITECT

Note column shaft in center of picture treated as a lighting fixture. The glass panes are made of separate rods built up to give a rib effect.

RANCIS
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STORE MODERNIZATION GOOD INVESTMENT

ROOS BROS IMPROVEMENTS OUTSTANDING EXAMPLE

by Fred W. Jones

EITHER he fails to realize the potential increase of business or his financial status will not permit of the expenditure —two plausible explanations why the average merchant does not modernize his place of business. Discussing the subject with a small town architect the other day the writer called attention to a number of more or less unattractive stores in the community.

You complain of business being dull, he was told, then why don't you interview these merchants, show them sketches of up-to-date store fronts and sell them the idea of increased patronage by making their places more attractive?

To which suggestion the architect replied: "I've already done that very thing and do you know what they told me? They said: 'Our store looks as good as others around here and anyway the people in this town have known us for years. They are our patrons whether we doll up or not. Styles change rapidly. Before long a new front would be as much out of date as the old one is now.' "

This exuse might hold good in some instances but it courts disaster if practiced for a period of time. Some day the other fellow, or maybe a newcomer, is going to give the public something different, something up-to-date, something really beautiful, and what will happen then? The merchant who wouldn't spend a few hundred or a few thousand dollars modernizing his antiquated plant will find he is not only losing transient trade but his old customers.

In the big cities like San Francisco and Los Angeles and Portland and Seattle where merchants depend more or less on transient business, it is undoubtedly easier to convince them that it is the smart thing to modernize.

Roos Bros., for example, inaugurated a modernization program a year ago that has called for an expenditure equal to the cost of a high-class new mercantile building, and this program of betterment is still on and will continue throughout the present year until the firm's great stores in San Francisco, Oakland, Berkeley, Fresno and other California cities are outstanding in their respective communities for good looks, serviceability and comfort. If other houses would show the same splendid courage the appearance of our cities would take on new color and interest, and the architect—well, he'd have something to do.

The success of the Roos Bros. program is reflected in the accompanying protographs. The extensive survey of modern store requirements by the architect, combined with the comprehensive and broad program of the client, has produced stores which are said to be equal to any in the United States.

The capable handling of the Women's Sports Shop in the San Francisco store of Roos Bros. is noteworthy. Ultra modern in design, there is a freshness in the whole treatment that makes one feel he would like to tarry even after he has made his purchase. The lighting effects are most alluring, particularly the illuminated columns which successfully conceal unsightly structural members. A unique feature, the first to be used in a mercantile establishment in San Francsco, is the electric eye, a device that automatically opens the street door upon approach of the customer.

WOMEN'S SPORTS SHOP, ROOS. BROS., SAN FRANCISCO
Williams and Grimes, Albert R. Williams, Architect

Finish is Alpine burl veneer with walnut inlay trim. The color tones are maple blond and plaster bone white. Lighting semi-direct.

THE LIGHTING OF ROOS BROS WOMEN'S SPORTS SHOP

by Leo G. Gianini

LIGHTING of the Roos Bros. Women's Sports Shop has been done in such an outstanding fashion as to provoke enthusiastic comment from shopper and critic. It has been stated that a well lighted interior is one with ample light available for seeing but of such a nature that one is hardly conscious of its presence. This is an erroneous statement for one can hardly have a well lighted interior without its being strikingly evident any more than one can arise on a beautiful, clear, sunny day without being thoroughly aware of the fact—particularly if it has been preceded by an overcast or foggy day.

Similarly, with so many dimly and inadequately lighted stores about, the well lighted one with its fresh, inviting appearance and lighting-for-seeing facilities permitting the customer to properly appraise the merchandise

STAIRCASE, WOMEN'S SPORTS SHOP, ROOS BROS., SAN FRANCISCO
WILLIAMS AND GRIMES, ALBERT R. WILLIAMS, ARCHITECT

Bronze railing with Steuben glass ballisters. Note illuminated hand railing on stairs.

REFLECTS THE BEAUTY OF FUNCTIONAL DESIGN

being purchased stands out in pleasing contrast to the others. Fully cognizant of these facts, Roos Bros. and their architect, Albert R. Williams of the firm of Williams & Grimes, in the early planning of the sports shop, decided that the very best modern lighting practice could afford should be incorporated in the design.

To achieve this result, the architects delegated Vladimir Oglou, one of the designers on their staff, to work with the writer. The general instructions given were very broad —only the meeting of functional requirements and decorative propriety were set up as limitations to be observed. Each section of the store was to be lighted so that the purpose of that area could be served in the most effective manner possible, calling for illumination of the proper color quality and diffusion to aid the customer in her shopping and introduce no impediments in the true appraisal of the material examined. In addition it was required that the equipment would have to be in harmony with

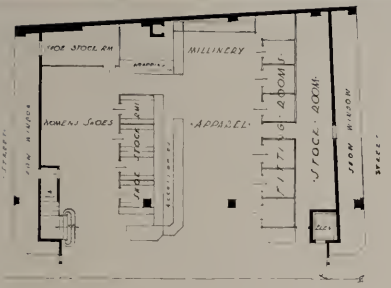
ROOS BROS. COLLEGE AVENUE SHOP, BERKELEY, CALIFORNIA
WILLIAMS AND GRIMES, ALBERT R. WILLIAMS, ARCHITECT

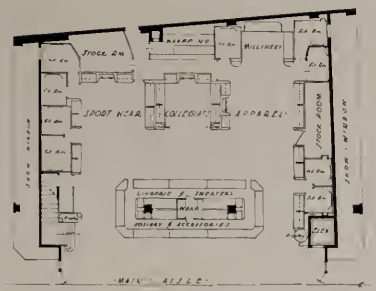
Copper and bronze sprayed metal finish throughout.
Lighting semi-direct from flash opal chandeliers

MILLINERY ALCOVE, ROOS. BROS., SHATTUCK AVENUE STORE, BERKELEY, CALIFORNIA

WILLIAMS AND GRIMES, ALBERT R. WILLIAMS, ARCHITECT

All exposed wood work is Yuba veneer and walnut trim. Carpet and plaster walls are a soft brown.





UPPER PLAN—BEFORE ALTERATIONS, ROOS. BROS. SHATTUCK AVENUE STORE, BERKELEY;

LOWER PLAN—WOMEN'S SPORTS SHOP AFTER ALTERATIONS

the treatment of its location as well as attractive.

Williams & Grimes set up three additional requirements to be met by the equipment to be used. First, efficiency; second, flexibility; third, adaptability.

Efficiency, of course, is a true measure of engineering design skill. No matter how beautiful the effect, no matter how soft the result, it is inexcusable to expend any more than the minimum amount of energy (electricity) necessary to achieve that result. Any more involves the wasting of money and an unnecessary heat dissipation.

Flexibility was desired so that in the early hours of the day or other times when customers are few, certain areas could be lighted in a more subdued fashion than normally and still not produce an obvious appearance of economizing.

Adaptability of the lighting equipment was desired because there are now certain laboratory developments in new types of lights under way which may have a revolutionary effect upon lighting practice. These new types of lights known as fluorescent sources, if successfully developed, will be widely used because of their higher efficiency and whiter light. It appears that these new lights are to be tubular in form and probably in physical size the same as the present Lumiline lamps. The design of the lighting equipment then should be such as to render it readily adaptable to this lamp as well as to the present screw base bulb type lamp.

The lighting problem was further complicated by a number of limitations imposed by the physical layout of the store. The ceilings about 10 feet high are relatively low in proportion to the room lengths. Further, they are broken up by a number of beams not symmetrical with any of the main room features.

WOMEN'S SHOE SALON, ROOS. BROS. STORE, FRESNO, CALIFORNIA

Color scheme based on heather carpet. Venetian blinds give the room an inviting warmth.

TINY'S WAFFLE SHOP, SAN FRANCISCO, CALIFORNIA, BEFORE ALTERATIONS

TINY'S WAFFLE SHOP, SAN FRANCISCO, AFTER ALTERATIONS
WILLAMS AND GRIMES, ALBERT R. WILLIAMS, ARCHITECT

Exterior is royal red marble with rounded window corners of opal flash glass and cromium bands

INTERIOR TINY'S WAFFLE SHOP, SAN FRANCISCO

Bar is finished in walnut. Walls of platinum English hardwood. Stool tops are deep red. Black and white rubber tile floor.

In addition space required for piping, conduits, etc., introduced further handicaps fully realized only when attempting a coordinated layout.

A very happy solution to the entire problem has been achieved as a result of carefully studied design combined with sound engineering principles—one in which it was not necessary to subordinate either functionalism or decorative propriety. The physical layout handicaps pass unnoticed, in a large measure due to the manner they are overshadowed by the more striking design and lighting features, successfully executed by the Boyd Lighting Fixture Company of San Francisco.

The most striking one is the lighted column occupying the center of the mezzanine well and of a height corresponding to the two floors. It is the first object seen as one enters the women's shop. In addition to providing a certain directionality offset to the predominant downward illumination delivered by the rest of the luminaries, the lighted column strikes the note of brightness and modernity which is caught as soon as one enters the store. The four lighted panels in the column are made up of nine hinged sections of clear crystal rods forming a curved section. Behind these is placed a special type of refracting glass. A lighting trough with small lamps on close centers runs the entire height of the panel. The combination of crystal rods and refracting glass serves to produce an interesting light pattern rather than one of dead uniformity. As is true of practically all of the lighting

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A SMALL HOUSE PRESCRIPTION

ARCHITECTURAL CONTROL BEST FOR GROUP PLAN

by Emery Stanford Hall, F.A.I.A.

THE way to build enduring, attractive small houses is not the way small houses are usually built. To get the best building results, finance must be divorced from contracts for material and construction. Finance is a proper function of the qualified financing organization. Conversely the expert framer and marketer of bond issues is not a safe man to direct the design and construction of buildings.

Contracts for building should be awarded on a fair competitive basis to responsible, competent specialists in the several crafts. No contract should be awarded to any separate trade contractor where the head of that firm has not served a trade apprenticeship in his chosen craft. Competency on the part of the boss gets efficient skill on the part of the journeyman. An expert employer knows efficient service when he sees it and spots neglectful inability on sight. The morale of the job demands the recognition of good work just as much as condemnation of bad.

The competent contractor needs his capital to operate his business efficiently. He has no surplus funds to finance his customer's projects. Likewise he has neither the prestige nor the skill to work out and put through practical financial plans. The really efficient building contractor is not in a postion to sell building securities to realty investors. When a pseudo building contractor purports to finance a building project he does not put his own money into it. That which he seems to put into the project is the junior paper which he coerces his material supply houses and sub-contractors to take. This junior credit is commonly wrangled from these subs on the promise of special favors. The only special favors that the financing-contractor has to give are at the expense of the job. In turn, so-called contractor-financed first-claim-paper is placed with bond houses on a pyramided cost set-up. These bond houses, in turn, sell through brokers to actual investors. Thus are brokerage commissions multiplied, appraisals stuffed, specifications violated and the integrity of the building industry raped. Not only are the paper-taking sub-contractors few in number, thus limiting competition, but they rarely, if ever, represent the best skill in the separate trade crafts. I have already pointed out that in order to build low cost, low bracket houses well and cheap, it requires the highest separate trade craft skill and construction management. It seems hardly necessary to stress the fact that a building with excessive material costs, or one whose up-keep expense is unreasonably large, will not be able to produce sufficient net revenue to sustain the breath of life through financial dry times.

Low cost small houses of pleasing appearance and enduring quality cannot be built in single units to suit the whims of special clients. This is irrespective of whether the work is organized by architect or general contractor. On these small units the overhead is proportionately too great. On the other hand, such buildings can be produced in quantity at a low cost, with

Editor's Note—Mr. Hall is President of the National Council of Architectural Registration Boards and President of the Chicago Chapter, A. I. A. He has had a wide experience on which to base sound conclusions. In this article he goes contrary to the habit of most writers on the subject of small houses and instead of theorizing, gives some definite and practical ideas on methods for buildings inexpensive homes.

individual charm of varying aspect and of elastic diversified arrangement. To accomplish these results requires an architect of trained, experienced ability, working without too much client interference* and handling as one operation a group of not less than ten, preferably twenty-five houses. To accomplish this program, the architect must so design as to standardize all hidden parts and buy in considerable quantity through the closest competition but only from contractors of high craft, efficiency and integrity. This means bids from and contracts awarded to, small operating separate trade contractors, firms or individuals working with comparatively small overhead. Usually in such firms, the head works part-time with his men; on the job at any rate, he is always in close touch with his employees.

No Cure-All

One should not be deceived; there is no panacea in the way of a new prefabricated material for the real reduction of the cost of small buildings. It is a case of using the tried and true materials which have been employed and perfected since the dawn of history. The main factor in getting results is trained, experienced, scientific application of the fundamental principals of good design. If we do what the Romans did with Greek architecture, reduce the design of small houses to a module system, we can cut our costs and still obtain large variety and interest. Roman architecture was good and economically practical. Greek architecture was built to please the gods and for the inconvenience of men. Throughout all the ages nothing has ever rivaled or even approached the exquisite beauty of Greek architecture. There are still standing usable examples of old Roman houses. In contrast, little that is authentic is even known concerning the Ancient Greek dwelling house.

There are no real economic rivals of the basic building materials. These materials have all been in use almost since the beginning of history. Wood, stone, iron, burned clay, plaster and plaster-stone combination, now known as concrete, have been used so long and in so many variations of form that there is really no use to which they have not been applied. When somebody talks about an entirely new product or scheme of combination, the use of the word new proves his ignorance.

Economy in building construction is all a matter of practical workable units, their assemblage in pleasing manner and at the minimum of cost. By building houses in groups in one continuous progression, small separate trade contractors can function in a relatively large way on a comparatively small capital. Close buying advantage may be taken of quantity purchase. Because of the small units that compose the whole, remnant lots of high quality brick, wood, cabinet work, plumbing, lighting fixtures, etc., can be included in the purchase at remarkable bargain prices. The wise architect who is handling such a project will find it very profitable to make a tour of the stock rooms of various building material supply houses. There are many real bargains in exceptionally fine products, which can be used on this kind of project, that could not be used in an apartment building project of the same magnitude. The very variety of these things helps to make distinctive the different houses that make up a group of this kind. Single architectural control of the group makes possible harmonious street aspect and at the same time the individual character of each house unit. Professional and contractor fees, even when comparatively small per house are in the aggregate of such size as to enable the architect to do much careful research work and the contractor to use extreme diligence. Workmen with the prospect of steady employment before them as well as ripening experience growing out of each repeat unit, develop much higher efficiency than could possibly be attained on a single small job.

Module System

The adoption of a module system in design, notwithstanding wide variation in the several building design units, results in a material saving in the cost of construction on a group operation. It is like a common denominator in

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*In government projects there is always too much client handicap

DINNER AT EIGHT—IN THE GARDEN

OUT-DOOR LIGHTING A NEW FIELD FOR ARCHITECT

by Agnes M. Barrell

OWNERS of beautiful gardens are welcoming the progress of the art of garden lighting which has now passed the experimental stage and may be planned and installed with assurance that the result will fulfill the owner's wishes.

Experimentation has proved that garden lighting should not be approached in the spirit of gilding the lily, of adding anything to the beauty of the garden itself. The light should be kept subservient to the garden, and light sources and equipment for the production of light should never obtrude. They are tools to be used in making possible the enjoyment of our gardens during those after-sundown hours when we have the most leisure to spend in them. The idea of lighting should be to reveal the garden in all its natural, colorful beauty.

The impersonal sunlight falls on everything alike, but the easy controllability of artificial lighting makes it possible to achieve entirely different effects by directing attention only upon those points that contribute to the desired result. The soft darkness of night forms a background against which the lighted areas are doubly effective.

This selective capability of artificial lighting also makes it possible to change the entire aspect of the garden merely by lighting various objects and areas at different times. This is especially valuable in accenting the changing points of interest in the garden as the season advances. As each planting comes into its greatest beauty, it can be given the spotlight, those areas not yet at their best, and those past their prime, being left in darkness.

Not only does garden lighting enhance the beauty of the garden when we are in it, but it also makes a lovely picture from within the house, and extends the interest of the home far beyond its walls and windows. The loveliness of the garden is lost under cover of darkness unless the garden is artificially lighted, and enjoyment of it is limited to the daylight hours —hours when we are usually otherwise occupied.

So large a part of our lives must of necessity be spent within buildings, that we are welcoming this new opportunity to spend more of our leisure out of doors.

As an outdoor living room the garden, or a portion of it, offers a delightfully refreshing change from our indoor surroundings, no matter how satisfactory they may be. When the outdoor living room is satisfactorily lighted, we may read, study, play cards, or carry on other activities that usually occupy us indoors.

Scores of interesting possibilities are opened up by including the garden among your living "rooms." Its living trees, grass, flowers, offer

UNDERWATER LIGHTING FOR GARDEN POOL

BIRD BATH WITH ILLUMINATED VASE

A FLOOD LIGHTED SAN FRANCISCO HOME

NIGHT BRINGS MAJESTIC BEAUTY TO THIS LOVELY GARDEN

"PASTEL BUBBLES IN CLUSTERS"." TOY BALLOONS ILLUMINATED WITH CHRISTMAS LIGHTS

a lovely and unobtrusive background magically adapting itself to the mood of the moment whether the desire is for a serene hour or two of reading, or for the stimulation of a gay group of friends.

The friendly, overhanging branches of a great tree, the patio, or an open space within a group of trees, form an ideal setting for outdoor dining. This pleasant custom which never fails to delight travelers in Europe, can be easily adopted here as the favorable climate of the Pacific Coast makes possible practically year-round occupancy of our gardens. Even if we do not accept this custom as a contribution to our daily living, we can adopt it as a refreshing novelty to be used upon special occasions.

For entertaining, the charming informality of a garden is welcomed by guests and hosts alike. It is difficult to conceive a more festive atmosphere for informal entertaining that that created by gaily painted tables and chairs grouped in a secluded setting, where friendly informality sets the keynote for the spirit of the evening.

Indiscriminate use of colored light is not recommended for the garden except for special occasions to produce bizarre or fantastic effects. When it is used, it should be with a full understanding of the effect of different colors of light upon the colors of flowers, trees, and bright garden furniture. Adroit use of colored light for accent or special effects is charming, but colored light over a large area is almost sure to result in reducing floral colors to a disappointing monotone. Colored lighting finds its most effective application in water.

If there is a rock garden with a carefully planned waterfall, perhaps its charm is entirely lost after nightfall. With a few underwater lamps this can be transformed into a cascading rainbow and the entire effect of the surrounding garden enhanced.

If the waterfall tumbles into a quiet pool, it too may become infinitely more lovely at night by illumination from lights hidden in recesses, or fastened under metal lily pads so lifelike as to be indistinguishable from their living neighbors.

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WALL ILLUMINATION FROM LIGHTS CONCEALED IN BRONZE CAT-TAILS. BELOW—ILLUMINATED SUN DIAL

FLOODLIGHTED LAKE IN PRIVATE ESTATE OF CAPTAIN BROWN, SACRAMENTO CALIFORNIA

FLOODLIGHTED GAMES COURT

SWIMMING POOL WITH UNDER WATER LIGHTING

SOUND PROOFING THE MODERN HOME

METHODS EMPLOYED FOR FLOORS AND PARTITIONS

by Michael Rettinger, Consultant on Acoustics

THE demand for quiet homes, apartment houses, and hotels is far greater than one might, at first thought, suspect. The Noise Abatement Commission of New York, in 1930, prepared a questionnaire in order to obtain some idea of the number of persons in a large city to whom noise was objectionable. When this questionnaire was printed in all of the metropolitan newspapers, a total of over 11,000 complaints was received!

But even in smaller cities complaints against noise are numerous. Indeed, the demand for sound-proof homes increases almost directly with the development of a community. With the average city and urban dweller thus placing quite a premium on quiet rooms, it would certainly be false economy to omit the cost for adequate sound-insulation in new buildings to be erected in such an expanding community, even though the cost of building sites there can be seen to increase materially from year to year. Adequate sound-insulation becomes the more important if one considers that the correction of faulty acoustics in residences already built is almost always a hopeless problem, or at best a very expensive one, representing perhaps several times the outlay for an initial scheme of sound-insulation proposed but omitted to reduce costs.

Before saying anything about the method and mechanism of adequate sound-insulation it must be mentioned that proper sound-insula-

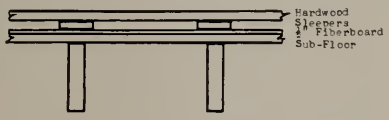

FIG. 1 FAIRLY HIGH INSULATIVE FLOOR FOR HOUSE OF WOOD-FRAME CONSTRUCTION

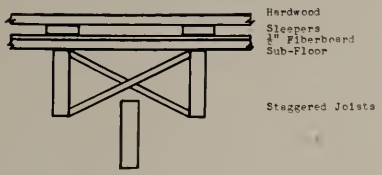

FIG. 2 HIGHLY INSULATIVE FLOOR FOR HOUSE OF WOOD-FRAME CONSTRUCTION

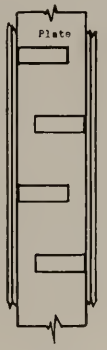

FIG. 3 NON-BEARING PARTITION USING ½" FIBERBOARD ON BOTH SIDE OF STUDS AS PLASTER-BASE

tion in new buildings is not so much a matter of selecting a certain material or materials, as it is of providing an effectively insulative type of construction. Insulation materials are effective only if properly employed; otherwise their use represents only a waste of money and materials without added insulation. Here it may be said that the term "sound-proofing" is a relative one, and that it should be defined as a provision of such a structure as will eliminate unwanted sound to the extent necessary to carry on satisfactorily the type of activities for which the room is meant to be used. In sound-proofing an apartment house, therefore, we need not to employ the kind of construction used in building a radio studio, for instance, in which an exceedingly low noise-level is necessary because microphones are not capable of excluding all but initial sounds the way the human ear is capable to do. For that reason the most important fact to know about a type of construction is not how much better it is than another, but whether it will reduce a certain noise to a point where it ceases to be annoying or to a point where it is drowned out by the room noises—ticking of clock, breathing, etc.

Here again we must distinguish between the insulation against air-borne noises such as speech, and solid-borne noises such as clicks of heels, moving of furniture, etc. The latter type of noise which is eliminated with much more difficulty than the former type, represents an important factor in the design of floors. For that reason a homogeneous floor must be made excessively heavy if tapping sounds are not to be transmitted, in spite of the fact that air-borne sounds are to a very high extent attentuated through such a floor. All recent acoustic tests on floor construction, therefore, are of two kinds—a test showing the stoppage of air-borne sounds and a test showing the amount of attentuation that solid-borne sounds experience in their course through the floor. A floor recently built in an apartment house — a floor with a very high transmission loss* for air-borne sounds—proved exceedingly inefficient in stopping the shuffling of feet during dancing in the overlying room, and expensive alterations were in order if that type of sound had to be eliminated.

Fig. 1 shows a fairly high insulative floor for a house of wood-frame construction. The sub-floor is nailed directly against the joists and a 1/2-inch fiber-board is laid, not nailed, on this floor. 1-inch by 3-inch or 1-inch by 4-inch sleepers are then again only laid on this impact-cushioning fiberboard, and the commonly used hardwood floor is nailed directly to the sleepers. For effective insulation a strip of fiberboard should be placed around the confines of the room between sub-floor and wall to prevent any sound from passing through the floor around its edges to the ceiling below. Such a floor has a transmission loss for air-borne sounds of approximately 53 decibels when either wood lath or metal lath with a 1/2-inch coat of plaster is applied to the underside of the joists; and a transmission loss of 22 decibels for solid-borne sounds.

Without the fiberboard and sleepers—with hardwood floor nailed directly against the sub-floor—and with either wood lath or metal lath with a 1/2-inch coat of plaster applied to the underside of the joists, the transmission loss for air-borne sounds decreases to 47 decibels, while the transmission loss for solid-borne sounds drops to 14 decibels. Any one not too well acquainted with the theoretical side of transmission loss calculations might believe that a decrease of 8 decibels is small; conversion of this loss into terms of sound energy, however, will show that an 8-decibel loss represents actually more than six times the sound energy previously transmitted.

When noises of greater magnitude must be prevented from being transmitted through the floor in a wood-frame building, a staggered joist construction as shown in Fig. 2 should be employed. The transmission loss of such a floor can be somewhat increased by placing a quilt of insulating wool between the staggered

* The transmission loss of a partition expressed in decibels refers to the amount of sound stopped by that partition. Thus if the transmission loss of a wall is 45 decibels, and the outside noise is 75 decibels, the transmitted noise within the room is equal to 75-45, or 30 decibels. A decibel may, roughly, be defined as the smallest change in loudness perceivable by the human ear.

joists, this increase amounting to from approximately one to six decibels, the exact amount depending on the type of blanket used. It should be mentioned here that the transmission losses of the different materials in a compound structure do not add arithmetically. Thus if a floor has a transmission loss of 50 decibels, and a 1/2-inch fiberboard having by itself an average transmission loss of 22 decibels is placed on this floor, the total transmission loss must not be expected to increase to 72 decibels; indeed, the total transmission loss increase may amount to only a few decibels, the exact amount depending on the type of floor on which the fiberboard was placed. For that reason also a 1-inch fiberboard is not twice as insulative as a 1/2-inch fiberboard.

A SMALL HOUSE PRESCRIPTION

(Concluded from Page 30)

an arithmetic problem. This unit system greatly simplifies lay-outs for contractors, enables the reuse of forms, permits shop cutting of parts, makes take-off of material merely a simple, accurate counting process and thus reduces the chances of error to the minimum. By designing on a basic module appropriate to stock building materials, these materials may be used without waste, therefore with the highest degree of efficiency.

Where it is desirable to use special design of any particular parts, these may be had without noticeable extra cost. Three dollars for a special knife or set-up is $3.00 on one house but it would be only thirty cents each for a group of ten houses.

The time consumed in going to and coming from a job costs the architect and each of the contractors, on a single small house job, much more than the actual time required at the job. On a group project this travel time is divided by the number of jobs and thus becomes a minor charge to each. The man who causes to be put three times all the money which he possesses into the building of a house and obligates his future to monthly installments over a period of from ten to twenty years, naturally magnifies the importance of his project to the nth degree. Usually he has had little or no business experience. It is more than likely that he is suffering from some form of inferiority complex. These conditions make one over-anxious and inclined to magnify a little brief authority into a mountain of importance. The result of owner interference and unnecessary taking of the time of architect, contractor and even workmen on a small job is many times greater than on a large job. On a large job, the owner is invariably an experienced business man and as such knows the importance of delegating work to proper people and then trusting them. A business man knows that if he uses unnecessary time of those employed by him that he has to pay for that waste, therefore he is careful not to cause waste of time.

Stock plans freely given are worth just as much as a physician's prescription without the competent doctor to watch the case. The legend on a patented medicine package says its contents will cure mumps, measles, appendicitis, etcetera; but the wise man does not take patent medicine nor does he consult a druggist when he is seriously ill. What he does is to call an experienced, well trained physician with a reputation for integrity. No house is cheap that is not well designed and the integrity of its construction competently certified.

GARDEN LIGHTING

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There is, of course, no ready made plan for lighting gardens. Each garden should be treated individually with full consideration of its characteristics, the architecture of the home, and the purpose for which it is to be lighted.

A lovely garden does not just happen. Often it represents years of patient planning and work, and a small fortune in money. Gardens which are to all practical purposes closed to us with the setting sun, are powerless to add to our enjoyment unless we reveal their loveliness with light.

SPORTS SHOP LIGHTING

(Concluded from Page 28)

equipment in the sports shop, the lights are on two circuits, either of which may be operated alone without creating an objectionable appearance. Also in keeping with the remaining luminaires, facilities are available readily permitting the incorporation of new light sources if and when they became available.

The most widely used luminaire is a linear unit of modern design which is nonetheless light and airy in character; it is highly functional, directing an effective flood of illumination onto the sales counters over which they are generally placed. These luminaires have as their principal lighting elements prismatic lens plates which serve to efficiently collect and direct the light from the Mazda lamp placed above it, down onto the sales space. The lens plates occupy positions 4 feet apart on the bottom face of the linear unit. Between them are panels of cathedral bubble glass above which is a row of small lamps. The bubble glass harmonizes well with the crystalline character of the prismatic plates. The sides and fins are of flashed opal glass with a bronze molding giving a trim, tailored appearance to the whole. These luminaires are set with their axis parallel to the aisle side of the counter edge. In this fashion 20 to 30 footcandles of illumination fall on the merchandise from over the customer's head thus avoiding all harshness. Furthermore, with this lighting equipment it is possible to confine the major portion of the illumination to the counters and sales spaces and minimize the amount in the aisles.

Other interesting lighting features are the louvred bronze surfaced indirect luminaires surmounting several of the columns between floors, the indirectly lighted display niches, the well lighted wall cases and show cases, the stairs illuminated from hollow hand railings, and the dainty yet modern luminaires placed about the rods supporting the balcony edge.

An outstanding section of the sports shop is the fawn room and its lobby. One of the most striking items in this area is the thirty-five foot long luminaire of Corning-Steuben architectural glass panels suspended close to the ceiling and extending nearly the entire length of the room. A similar luminaire half as long is found in the lobby. Lighted, they have a cool, frosty textured appearance. This is achieved through an etched finish on the inside of the molded glass as well as by the use of refracting glass within the luminaire. The lamps are set on fairly close centers providing illumination more nearly daylight in character than from ordinary lighting, producing an illumination approaching daylight in character.

The light is well distributed throughout the area due to the extended nature of the luminaire.

Other lighting items worthy of note are the fitting room treatments, of which there are several, the indirect cove lighting in the wrapping section, the various indirect treatments in the carriage entrance and the luminous side wall panels in several combination corridor and sales space.

All in all the lighting equipment is original in form, effective in treatment, and emphatically answers in the affirmative the question—can functional lighting be beautiful?

ELECTRIC HEATING FOR THE HOME

by W. Wesley Hicks, President Electric Heating Society

EVER since the advent of the incandescent lamp people have been looking forward to heating their homes with electricity.

When electric cooking and electric water heating were first introduced in California, people were found to be more interested in electric heating comfort than in the convenience offered by these services, and some of them had already wired their homes for electric heat.

In my own early experience I met the same question from consumers everywhere, "Why can't we heat our homes with electricity?" After pointing out that the existing rates were not designed for electric heating I undertook to supply on the rates available some electric heat to discriminating consumers, equipping some rooms with large reflector type heaters, others with intensely hot radiant heaters, and still others with straight convection heaters. They all worked after a fashion but I soon found that we had best results where we used a convection heater and also a radiant heater in the same room so as to provide the primary heating by convection and at the same time supply some direct radiation, or red heat, for its direct comfort and psychological effect. Then the obvious thing that suggested itself was a single unit combining radiation and convection.

There were plenty of heaters on the market all the time but none of them had ever attained any noticeable public acceptance, except the little spot heater which in later years has been supplanted over the nation with the popular little 1250 watt semi-circular auxiliary heaters which are seen everywhere today, over 100,000 of which have been sold in California alone. They are really small samples of the larger radiant circulating heaters, of the same make.

The advent of these large radiant convection heaters, providing a balanced relationship between radiation and convection, marked the beginning of successful electric house heating, but we did not fully realize then all the reasons why they were preferred by the users. We knew that the air of the room, circulating through the heaters, was sterilized and that the incidental radiant effect provided a penetrating warmth with beneficial infra-red rays, but now we find that they also provide the effect of ionization, usually obtained only from the sun.

Electrically heated schools using these heaters report the highest average attendance with fewest colds and entire freedom from the usual fall and winter epidemics so prevalent in schools heated by fuel. And now the reasons why certain types of heaters have continued to receive public acceptance and why others have not is perfectly obvious.

To quote from a broadside mailed to its domestic consumers by the largest electric utility serving the territory and referring to an early installation:

> "Guests at the home, delighted with the new heaters, ordered them for themselves. The fame that came to these heaters spread by word of mouth. People all over California accepted them for their homes. Famous architects are now specifying them."

Natural Acceptance Retarded

Electric heating is not new, since it has been a perfected art for at least 15 years. However, its progress has been retarded in some territories by the unjustifiable attitude of utility engineers.

These engineers have not generally analyzed the possibilities intelligently, as they are inclined to think only in terms of extremes. They are worried about peak demands that do not exist. They count the cost of distribution by setting up an hypothetical situation that will probably never materialize, and they endeavor to substantiate their theories by reference to a few isolated cases, where misinformed and inexperienced individuals have attempted to subject electric heating to the limitations of other methods, by making the mistake of adapting electric heat to furnaces, steam radiators, or by introducing trick heating devices such as unit fan heaters, radiant glow heaters, and other fundamentally incorrect designs too numerous to mention.

They remind me of the university professor who lost his patience when as a sophomore I refused to accept his teaching that "while electricity is man's ideal heating agent it can never be produced for less than 10c per kilowatt hour." Contrast that with the 1c rate in Northern California, the 5 mills rate at Mason City, Washington, the 7½ mills rate at Seattle, Washington; Eugene, Oregon; and Pasadena, California; and the 4 mills rate in Tennessee; and the 2½ mills rate at Ketchikan, Alaska.

But in spite of every obstacle electric heating is making progress like everything else that is fundamentally sound. Needless prejudices are rapidly being overcome. In Northern California alone electric utilities are now serving a connected load in these heaters of over 500,000 horsepower, most of which has been operating on much higher rates than we enjoy today in the homes of people willing to pay a little more for electric heat. Of course the market has broadened as the rates have gone down—35,000 homes in California depend primarily on electric heat for comfort and over 100,000 others use some electric heat.

The greatest number of satisfactory electric heating installations has not been in the territories having lowest rates, but rather in the territories where intelligent engineering and availability of perfected equipment has appealed to the discriminating consumer. Nor is successful electric heating confined to governmental projects or to regions having particularly mild climates. The temperature range at Mason City is -14 to 70 degrees Fahrenheit, in California 10 to 70 degrees, and in the Tennessee Valley from 12 to 70 degrees.

Characteristics of Electric Heating Load

The ratio of the kilowatt hours actually consumed to the kilowatt hours that would have been consumed if the load continued at maximum demand for a year is known as annual load factor, and largely determines rates.

Contrary to earlier opinion it is now proven by actual records that properly designed automatic electric house heating systems provide favorable annual load factors. At Mason City, on the Columbia River, 300 electrically heated houses, operating under most adverse conditions, and without the benefit of automatic control, show an anuual load factor of 29.8%.

At Yosemite Valley, California, permanent homes electrically heated show an annual factor from 62% to 80%, and at Norris and Pickwick, Tennessee, the electric heating installations show annual load factors of over 30%.

In houses equipped with a number of unit type heaters there is a natural diversity of use which is greatest when automatic heaters are used. When a number of houses so equipped are connected to the same feeders there is a still greater diversity, and a large number of such feeders provide still greater system diversity.

Without considering balancing the electric heating load with summer pumping and irrigation, load available records show that electric heating offers better load characteristics, including annual load factor, than lighting, cooking, or other domestic service. The general manager of one of the very largest electric utilities, with electric heating load amounting to several hundred thousand kilowatts points out that "the usage of the heaters is so diversified over the company's system that the load cannot be detected on the load curves."

Types of Heaters

There is, first of all, the well devolped unit space heater which can be built into the wall

in each room with integral automatic control, thereby providing the most acurate means of temperature control throughout the house. These heaters cause the circulation of air by natural means, which eliminates the need for motors, fans, or other moving parts; therefore, they have a long life and low depreciation. They also have balanced radiant-convection heating characteristics. In addition to circulating air about the room at a normal velocity, which provides a normal effective temperature, these heaters also have a cheerful, cozy, moderate glow which has a psychological effect that satisfies the inherent desire in all humans to associate color with warmth.

This is the only type heater that has ever acquired full public acceptance, and is therefore the most popular system in use. Considering all phases, it is particularly adaptable for major heating, under climatic conditions that are moderate and where intermittent usage is required. However, wide and varied temperatur changes, as well as winter changes have been qually met by electric heating due to the speed and flexibility of properly designed equipment.

It is, of course, necessary to provide various modifications in heater design and application in house heating, such as baffled heater, heaters fitted flush with the floor, panel heaters, baseboard heaters, so called black heat heaters, straight convection type heaters and fan heaters, each of which has its place so long as we do not sacrifice the characteristics that good heaters should provide, and which are beneficial to health, and useful in encouraging further public acceptance.

At Mason City, on the Columbia River, 3000 people depend entirely on electricity for lighting, cooking, water heating and heating comfort, at an annual cost of $55 to $60 a year.

Apartment House Electrically Heated

At Tupelo, Mississippi, an apartment house has been built with the occupants depending entirely on electricity for heating comfort. Individual apartments have annual heating bills from $26.65 to $33.32. Many homes in Tupelo are heated with electricity.

In approaching the problem of electric heating in the Tennessee Valley, the Tennessee Valley Authority engineers were guided by the history and experience of electric heating on the Pacific Coast where climatic conditions most approximated those in the TVA territory, and where electric heating had been in use longer than in any other section of the country.

California is recognized as the birthplace of modern electric heating.

The TVA engineers found that "the type of electric heating which meets with most general acceptance by the consumer and utility is the type that combines in correct proportions both radiant and convection characteristics. And such heaters should be light in weight, capable of quick and uniform heat, and most important of all, automatic. This last feature provides operating economy for the consumer and desirable load characteristics for the utility. Each heater represents a small self contained automatic heating system which makes heat available as needed and where required at uniform temperature and without waste due to overheating or transmission losses. Such individual units may be used for complete installations for an entire house with minimum investment for equipment and building construction, such as flues, foundations, etc., required for other heating systems. And that makes possible the gradual introduction of heating unit by unit either as a piece-meal system or as auxiliary to other heating methods.

"The Tennessee Valley Authority has installed electric house heating installations at the following locations: Norris Dam, Tennessee; Pickwick Landing, Tennessee, and Wheeler Dam, Alabama. Norris and Wheeler have gone through one complete year of operation. There are about 151 houses at Norris and 15 at Wheeler. These houses are of permanent construction and insulated and contain from 5 to 9 rooms each.

"Based on 31 out of a total of 151 houses at Norris which are equipped for electric heating, cooking, water heating, refrigeration, lighting, and miscellaneous equipment, the average annual cost of energy for all purposes from July,

1934 to March 1935, with April, May, and June, 1935 estimated to complete the full year, was $100 for average annual usage of 12,009 KWH, of which between $30 and $40 represents the cost of heating. Of this group the lowest annual bill would be $66.12 for 3,890 KWH; the highest bill for the group would be $156.35 for 24,794 KWH.

"At Wheeler the average annual cost for all purposes was about $130, with the heating averaging about $52.

"At Pickwick there are 110 uninsulated low-cost houses of the 4 and 5 room type. It is estimated that these houses for all electricity used for all purposes will have an annual operating cost of $110.40 for 12,760 KWH of which $35 for 8,513 KWH is represented by the heating.

"Generally, experience has shown that at the electric rates available the average annual operating costs for all household purposes including electric heating for a 6 room house, if reasonably well constructed but not insulated, is approximately $126, or an average of about $10.50 per month for 12 months. The highest bills occur equally in December and January for about $18. The heating alone accounts for about $50 of the year's total with an average heating cost per month for seven months of about $7. The highest heating bill in December and January is about $12 for each of these months. At the above cost, electric heating has met with approval on the part of the great majority of the residents. Such approval, it should be pointed out, is based not alone on previous experience with comparative costs of other fuels, but also on the added factors of convenience, cleanliness, healthfulnes and safety, which are represented in electric heat. Once introduced, it seems certain that automatic electric heating is destined to be the most popular application of electricity, next to illumination."

Advantages of Electric Heating

A few of the advantages of electric heat are: The immaterial nature of electricity as a heating means, the visible heat rays from radiant coils which travel with the speed of light, the 100% conversion of electricity directly to heat which is impossible with fuel, its cleanliness, its flexibility, its ease of regulation, its safety, its perfect automatic control, and it does not absorb oxygen from the air.

Inexpensive, good insulation, available for insulating the ceiling and walls against heat losses, has greatly reduced the cost of heating. The Washington State College in its bulletin entitled "Electric House Heating", shows an annual saving of 4,200 KWH in one heating season in an insulated house compared with an uninsulated house of the same size.

While most people are aware of the continued downward trend of electric rates they do not always realize that the cost of popular types of major electric heaters has been decreasing even more rapidly, so that today the best heaters are available at less than $10 a kilowatt, including self contained or integral thermostat control.

At the same time the cost of wiring and installing has been greatly reduced. Recent quotations from reliable electric contractors throughout the nation quote $4.50 to $9.00 per circuit including service wires where several circuits are involved. In the cities the cost of wiring is generally higher.

At Mason City, the chimneyless town referred to above, the cost of the equipment for heating the bungalows electrically, including wiring and instalation, as well as the heaters, averaged $181.50, as compared with the quoted cost of a fuel burning furnace, completely installed, $300.

In Southern California electric utilities are actively promoting electric house heating as a ready means of utilizing power which will shortly be available from the Colorado River. They know that such a load as house heating offers takes years of careful work with full cooperation of the utility, manufacturers, jobbers and dealers, and they know that this service which presents comfort to consumers offers a natural means to bring closer public relations.

Henry Ford has said, "Make the people electrically minded", but they are already electrically minded and they can be depended upon

to keep our industry stepping to keep up with what they expect of us in the way of good service, equitable rates and low cost of good equipment.

Value of Utility Service

Future measures of value of the service rendered by our electrical utilities will be the kilowatt hours purchased by satisfied consumers for heating comfort.

The consumers expect this service and they will utilize it as fast as they become aware of the lower rates available and their incomes approach normal.

Frank Putnam, candidate for Governor of Texas a few years ago, says:

> "All of the conditions requisite to general adoption of electric air and water heating throughout the United States, as rapidly as the utilities can supply energy and manufacturers the equipment, are present. Nothing essential remains to be discovered or proved. Millions of American families are easily able to buy it. That they will wish to buy it, once they see it demonstrated, is indicated by the experience of West Coast utilities."

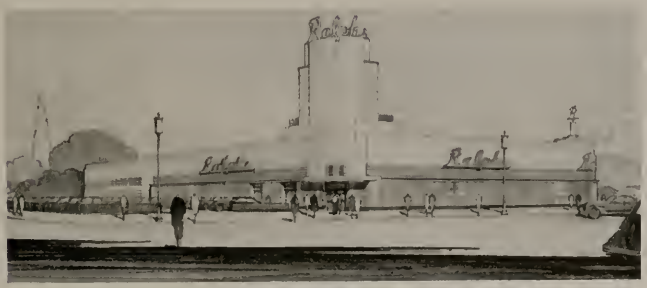
Electric utilities are becoming great purveyors of comfort by wire and their revenue from existing domestic consumers will double and triple when the present domestic consumers are equipped for at least some major heating.

The 350 to 1,000 kilowatt hours annual consumption per domestic consumer, pointed to today, will seem very small when compared with the 10,000 to 30,000 kilowatt hours a year from the fully electrified homes.

Electric heating is fundamentally sound. Its use makes for conservation, and the ultimate in healthful comfort, and no one can retard its progress for long. In spite of all obstacles, electric heating will, in the immediate future, obtain the same public acceptance as the electric range and electric water heater; and eventually the same public acceptance as the electric light.

People like electric heat and as Frank Putnam says, "The gods favor electric heat."

Technical information with reports of operating costs for heating electrically are available to those interested, as are convenient handbooks on electric heating, written by those who have had years of experience in the art. The Electric House Heating Manual, prepared by the Tennessee Valley Authority is available on application. Much information is now available from users and utilities, including many valuable papers on the subject of electric heating, published by the Electric Heating Society with headquarters in San Francisco, all of which indicate an ever increasing use of electricity for heating.



MARKET BUILDING FOR RALPH'S GROCERY COMPANY, LOS ANGELES
Morgan, Walls & Clements, Architects

This frame building in Los Angeles was badly damaged by fire December 14. Close beside it a stuccoed garage resisted the flames, being practically immune from damage, although the heat was terrific.

Close-up of building described above, showing badly charred studs. The white wall in the rear is the stuccoed exterior of an adjoining garage which resisted the searing flames.

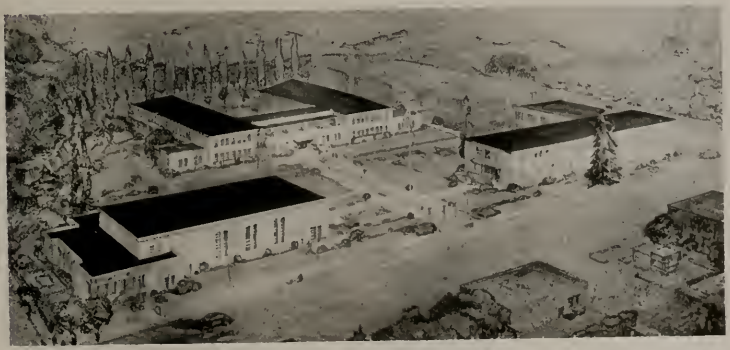
Illustrations Courtesy California Plasterer

Painting by Chesley Bonestell

Photo by Gabriel Moulin

SAN FRANCISCO MUNICIPAL AIRPORT, SITE OF
GOLDEN GATE INTERNATIONAL EXPOSITION

The three buildings, financed by Public Works Administration grants, will cost more than $1,000,000 and will be used during the Exposition as an Administration Building and Exhibit Palaces.



PERSPECTIVE OF ABRAHAM LINCOLN HIGH SCHOOL, LOS ANGELES
ALBERT C. MARTIN, ARCHITECT; NORMAN B. PATTEN, STRUCTURAL ENGINEER

This modern educational plant includes an administration building, class room and science building, commerce, home economics and cafeteria building, and an assembly hall and music room. All the structures are reinforced concrete. The estimated cost is $700,000.

INTERIOR ALMA WALKER SHOP, PALO ALTO, CALIFORNIA

Note medalion murals on side walls and two large murals on rear wall.

PHOTO-MURALS-A NEW WALL DECORATION

THE past few years have shown interesting developments in the use of Photo-Murals for wall decorations. Architects and decorators have found that with skillful use and selection of subjects, murals offer infinite possiblities in carrying out the decorative schemes of architectural periods of rooms, whether they be in homes, clubs, cocktail rooms, offices or public buildings.

Murals have been used in the decorative treatment of such prominent places as the National Broadcasting Studios and the Cloud Club, New York City, and the College Inn Room of the Hotel Sherman, Chicago.

Businessmen are seeing the practical side of these murals for telling the story of an industry and are decorating their offices, stores and display rooms with murals from photographic reproductions. The Ford Motor Company used giant Photo-Murals in dramatizing the motor car industry in their exhibition building at the Century of Progress Exposition in Chicago during 1934.

On the Pacific Coast, murals decorate the sales rooms of Roos Bros. and Elinor's, San Francisco. The Consolidated Chemical & Industries, Inc., Hunter-Dulin Building, San Francisco, have used interesting murals, taking as subjects artist's drawings depicting the story of the industry. The Alma Walker, Inc. Shop, Palo Alto, has used large and colorful murals developed from illustrations, as shown in the accompanying illustration.

Varied and beautiful effects may be obtained in oils or by tinting the murals in green or sepia tones. Original sketches, rare old prints, antique maps and engravings can be enlarged to conform with the surfaces required. The cost is considerably less than original mural art and brings a new medium of decoration within the means of all who desire distinctive wall ornamentation.

BEST YEAR SINCE 1929 FOR BUILDING MATERIAL DEALERS

The following review and forecast of the building situation as particularly affecting the material dealers, was published in the Pacific Coast edition of the Wall Street Journal, under credit line of the "Dow-Jones News Service":

Building materials manufacturers are entering the new year with the most promising prospects since the beginning of the depression. After experiencing a marked upturn in both volume and profits in 1936, the trade is now optimistic that the demand for construction materials during the current year will develop to the point where all the important producers in the field will be able to report results within striking distance of their more prosperous periods of the past.

Leading interests in the real estate and building groups are practically unanimous in the belief that the nation is in the initial stages of a construction revival that will stretch over a period of years and may eventually even top the peaks of preceding building cycles. In line with this opinion, many in the construction materials field are preparing for a constantly advancing demand for their products by expanding inventories and plant facilities and by further extending and increasing the efficiency of their selling organizations.

The only serious threat presently on the horizon is the advancing trend of building costs. Materials and labor charges have shown a constantly advancing trend with the effect that construction costs are approaching the level where price resistance is becoming increasingly more pronounced.

Wages, Taxes Boost Costs

Increasing wages and advancing taxation are the major reasons for the upswing in costs. Labor in both the building materials and construction fields is constantly demanding higher compensation and shorter hours and many in the trade believe substantial further wage advances will be necessary with the advent of building weather this spring.

No shortage of skilled building labor in general is anticipated for some time, but some constructors declare that a sustained increase in demand might cause a scarcity to develop in the more skilled trades. Currently the number of skilled building mechanics is at the lowest point in more than a decade. During the depression years the unions reduced the number of their apprenticeships to a point where the new men entering the skilled lines fell far short to offsetting the losses due to death, old age and other causes.

Although activity has been steadily on the upgrade and good advances percentage-wise have been registered in new construction during the past three years, the dollar volume of the industry still has a long ways to go to compare favorably with pre-depression days.

Well Ahead of Last Year

Estimates of 1936 activities placed the total of contracts let in the 37 eastern states, an area fairly representative of the country as a whole, at around $2,700,000,000. This would compare with $1,844,544,900 in 1935 and the low level of $1,255,000,000 in 1933. While the 1936 figure represented an impressive advance, it was still less than half of the annual average of $6,211,000,000 for the five years 1925-1929. The high point of the last building cycle was established with $6,628,000,000 in 1928. During the first 11 months of last year operations showed an increase of 56.6%, advancing to $2,475,600,300 from $1,580,408,200 in the like 1935 period, according to the F. W. Dodge Corp. This gain was on top of advances of 20% and 23% in the full years 1935 and 1934, respectively.

A most encouraging aspect of the current situation is the upward trend of privately financed construction. It is to that type of work, which includes residential building, that the trade has long pinned its hopes for a maintained recovery. Estimates for 1936 place privately financed activities at more than 48% of the total and some interests foresee the figure for 1937 crossing the 50% mark by a good margin. During 1935 it accounted for about 45% of the total outlay, while for the ten years ended with 1930, it contributed more than two-thirds of the country's aggregate.

With a serious home shortage and a large accumulation of repair and renovation work being reported from all parts of the country as a result of the sharp let-down in construction during the depression years, the best minds in the line believe the stage is set for the development of a home building boom of huge proportions over the course of the next several years. Activity in that line for the 11 months ended with last November ran 70% ahead of the like 1935 period, which year in turn reported an increase of 92% over 1934.

Apartment Building and Renovation Work

While the small residence is expected to furnish the bulk of privately financed activity, it is probable the large apartment house will also play an important role. Of late interest in this larger structure has been reviving rapidly and indications point to the early resumption of this type of building on a broad scale. Renovation and repair work, long neglected because of economic difficulties is another source that is expected to contribute heavily to the total.

All the influences that normally make for activity in the home building field are currently present. Confi-

dence is growing, rents are firming up slowly, but surely and vacancies are declining. Also, the mortgage situation is clearing up rapidly, with good mortgages in demand and foreclosures on the decline. Other favorable factors are the greater activities of the speculative builder, changes in styles and new requirements for comfort that are attainable by the more modern home —comforts such as air conditioning, etc.

Many lines are benefiting from the upsurge in construction. These include producers of building materials such as brick, cement, stone, lumber, roofing, hardware, paint and plumbing, heating and air conditioning equipment. Also, an expanding market is being created for a broad list of articles that go into the new home, such as washing machines, refrigerators, electrical equipment, furniture, carpets, stoves and other house furnishings.

Leading Units Report

The effect of the upturn in the demand for their products is clearly discernible in the results reported by the leading units in the building materials field for the first nine months of last year. In some instances earnings more than double those of the like 1935 period and in most cases the gains were of healthy proportions. Otis Elevator, as an example, increased its net to $1,657,295, from $479,752, and Johns-Manville advanced its earnings to $3,093,560, from $1,573,040, or $1.57 a share. Other impressive gains were reported by Minneapolis-Honeywell Regulator, Lone Star Cement, U. S. Gypsum, Masonite and Celotex.

The following tabulation shows the net income for the first ten months of 1936 as compared with a year ago of leading companies whose activities are wholly or largely influenced by construction activities:

	1936		1935	
	Net income	A share on com.	Net income	A share on com.
Minneapolis-Honeywell	$1,750,150	$2.68	$1,057,826	$1.57
Johns-Manville	3,093,560	3.60	1,573,040	1.57
Otis Elevator	1,657,295	.68	479,752	.09
Lone Star Cement	2,051,335	2.60	754,728	1.20
U. S. Gypsum	4,189,401	3.17	2,888,935	2.08
National Gypsum	799,317	2.44	398,535	.....
Devoe & Reynolds	†239,458	...	†201,585	.....
Libbey-Owens	7,369,960	2.94	5,595,478	2.21
Yale & Towne	675,454	1.39	169,163	.35
Sherwin-Williams	*5,887,629	8.04	*4,814,704	6.18
Barber Co.	218,605	.56	172,474	.44
Masonite	*1,429,649	5.00	1,004,271	3.41
Celotex	404,972	1.10	‡5,875	.
Reynolds Metal	1,557,773	1.41	§828,367	.86
National Lead	¶2,740,927	.57	¶2,615,510	.53
Flintkote	944,881	1.41	1,094,488	1.64
Ruberoid	607,862	4.58	508,383	3.83

* Fiscal year ended August 31. † Before federal taxes for six months ended May 31. ‡ Loss; company reports for nine months ended July 31. § Available for common stock. ¶ Six months ended June 30.

Other Plants Show Advances

Other organizations, reporting on a 12 months basis, showing substantial advances in earnings are American Radiator & Standard Sanitary Corp., Lehigh Portland Cement Co., Alpha Portland Cement Co. and Owens-Illinois Glass Co.

Prices in practically every line of building materials are firm with indications pointing to a further stiffening as the year advances. The only important exception is Portland cement where a special situation has developed as the result of growing importations from Europe. To meet this threat producers supplying the eastern and southern areas recently reduced prices in a number of coastal cities in varying amounts between 12 and 63 cents a barrel. These reductions cover only the territory within cartage distance of the seabord and have not as yet affected prices in other areas.

Cement producers made great progress in 1936 in rebuilding their earnings power and it is likely the industry was well in the black for the first time since 1931. Sales during the ten months ended with October advanced 50.2% to 96,789,000 barrels and promise to mount to around 105,000,000 barrels for the full year. The latter figure would compare with 74,934,000 barrels for 1935 and the low point of recent years of 64,282,000 barrels in 1933.

Brick Makers Record Gains

Brick manufacturers are staging one of the most impressive revivals in the materials field, although the industry in general is still below the break-even profit level. Sales for 1936 were up about 75% over 1935 and the trade is looking forward confidently to the maintenance of the current brisk demand well into the future. Further encouragement is given by the firmness of prices. A $1 a thousand advance was put into effect last April in the New York area bringing the quotation to $11, and the general feeling in the trade is that another similar advance will be seriously considered within the next several months.

Radiator, boiler and sanitary ware manufacturers had a relatively good 1935, with the latter line showing the greater margin of profit. It is probable the trade as a whole attained a profitable level and some of the larger units realized fair earnings. Prices of radiators and boilers were increased on an average 7½% July 1, last, while the advance in sanitary ware was made earlier in the year. In some well versed quarters it is thought probable consideration will be given to a further increase in sanitary ware prices. Any advance and its extent, however, will likely hinge on further wage increases to plant workers. Currently quotations are on the average some 15% to 20% below the 1929 levels, although hourly wages are equal to or in excess of that time.

Paint and varnish makers advanced their volume last

year about 12.5%. Prices have been firm and have enabled the trade to make a fair earnings showing. An advance of about 5% has just been put into effect. During the initial ten months of 1936 total sales of $324,588,928 were reported by 579 establishments throughout the country. This compared with $288,812,-073 by these same concerns in the like 1935 period.

A substantial increase in volume accompanied by stiffening prices in the final three quarters, enabled the prepared roofing trade to report good 1936 earnings. The year started with a most unfavorable price situation in the asphalt products lines that had carried over from 1935. In April conditions turned for the better and successive advances brought year-end prices to a level about 27% above those of the initial quarter. A further mark-up in quotations during the spring is probable to meet rising labor and material costs.

The strike of the maritime workers on the Pacific Coast caused an acute shortage on some important species of lumber in many parts of the country. . . . .

Lumber Shipments Rise

During the first 48 weeks of last year, lumber shipments of the nation were 24% higher than in the like 1935 period, advancing to 11,067,597,000 board feet. Unfilled orders at the close of last November of 988,-975,000 feet had advanced to 38 days average production from 638,815,000 feet or 25 days average output in 1935.

Glass makers enter the new year with their outlook obscured by labor difficulties. Strike conditions prevail in a number of the leading plants of the country and a serious shortage of glass is threatened unless an agreement is reached with the workers in the near future. Stocks are currently at the lowest level in years and are rapidly approaching the vanishing point.

Until the outbreak of the strike at the plants of the Pittsburgh Plate Glass Co. a month or so ago and the later spreading of the trouble to the Ottawa plant of Libbey-Owens-Ford Glass Co., plate glass makers were experiencing record business and earnings. During the ten months ended with October, production aggregated 177,613,609 square feet, a new peak and 20% above the 147,794,974 square feet recorded in the like 1935 period.

Window glass, while not registering the impressive footage gains of plate, is also doing well, the trade reporting a tremendous volume of orders during the final months of 1936.

The price structure for both types of products is firm and leading producers anticipate further advances in quotations early this year reflecting the final settlement of the wage controversy with their workers. Current plate prices represent an advance of about 25% during 1935 while window glass was marked up about 8% last June.

The greater part of the demand has developed in the motor car industry where a sustained rise in automobile sales coupled with the gaining use of safety glass have entailed large footage of plate. During the past year, operations of the trade have been further stimulated by mounting orders for both plate and window glass from the construction industry.

"MORE HOUSE FOR YOUR MONEY"

An army of potential clients whom architects have been unable to reach in the past have been presented to the profession ready-contacted.

"More House for Your Money," by Elizabeth Gordon and Dorothy Ducas, which William Morrow will publish in March, is the first complete discussion of home building written in primer terms for the layman. The authors are newspaper women and housing experts who conduct the Clinic for Houses in the New York Herald Tribune.

The book goes thoroughly into the matter of the architect's functions and fees and his value to any building project. The authors reveal for the first time to the layman the possibility of having architectural service on low-priced houses, through such agencies as the Architects' Small House Service Bureau. These pages lift a heavy educational load from the shoulders of architects and insure that any client who has read them is going to be more intelligent and easier to work with.

It is the conviction of Miss Gordon and Miss Ducas, expressed throughout the book, that the retention of an architect means more and better houses for your money. "The best insurance that you will build a house in good taste and to fulfill your needs usually is the architect," they say.

"By temperament and training he is apt to be an artist as well as a building engineer; rarely does he allow the faux pas of dishonest design, over-elaborateness or mixed architectural metaphors to creep into his work.

"Is a gown from Vionnet or Molyneux worth 100% more than a gown from a Fifth Avenue department store? Some people laugh at the idea of any garment being worth 100% more than any other; others save their money to be able to buy one authentic model each year, knowing it will be good next season and the season after, when the department store dress has worn out or gone completely out of style. It's up to your taste and pocketbook. The house which will wear, which won't look just like everybody else's, which fits you as perfectly as a custom-made suit, has value only if you can appreciate it and can pay for it."

Other chapters, simply written, but with a wealth of detail, and covering all sides of controversial subjects, tell the reader such things as these:

How to buy land; how to get plans; how much to spend and how to spend it, how to finance; methods of construction; materials to use; foundations and cellars; the roof over your head; weatherproofing; finishing the inside; finishing the rough edges; light and power; putting in the plumbing; and manufacturing climate.

ACCIDENTS ON THE BAY BRIDGE

Editor The Architect and Engineer:

The question has been asked many times about the number of fatalities on the San Francisco-Oakland Bay Bridge while it was under construction. Why were there so many more fatalities on this bridge than on the Golden Gate Bridge? Were due precautions taken to prevent accidents and protect workers?

Structural Engineer.

The following letter, addressed to Mr. Griffin of the National Safety Council, seems to answer these questions satisfactorily:

"Since the inception of the work it has been my privilege to be closely associated with the safety activities on the bridge, and I may be able to express some personal opinions on the subject.

"The construction of the bridge, to quote an official from the Engineer's Office, was carried out by as competent a group of contractors as could be assembled in this country. Their attitude and efforts for accident prevention, as measured by customary standards, were considerably better than average. The Bridge Safety Advisory Committee met monthly, exchanging data, and experiences, cooperating fully and splendidly with each other, insurance carriers and the State Industrial Accident Commission Safety Engineers.

"The examination of each fatality is the only proper way to get the picture of how they occurred: An ironworker had his foot on a beam when a moving traveler jarred the beam so that the man lost his balance and fell . . . An electrician inside a hollow tower column failed to wear his metal helmit and was struck by a falling bolt . . . An ironworker, wishing to show off and save two minutes time, attempted to slide down a rope four hundred feet long against the advice of his fellow workers and dropped to the pier. . . A riveter failed to use his life line while tying off a scaffold, and the scaffold tilted . . . An ironworker removed two planks from an opening and later stepped backward into the hole. . . . An ironworker using an air operated winch did not tie himself on, and was knocked off by the reversal of the winch. . . An ironworker landing a load of planks stepped backward into the opening . . . A laborer with his back to a concrete truck backing up was run over by the truck which used the road for the first time . . . A painter climbing down a pier for his lunch slipped and fell . . . An ironworker jumped for a moving gangplank and fell in the water, drowning. A carpenter moving his safety hook lost his hold and fell in the water, drowning. . . . A diver overweight had a heart collapse, due principally to his physical condition. . . A winch scaffold fell, causing a keg of bolt spikes to strike a caulker, breaking his ribs and knocking him into the water, death coming from pneumonia . . . A pile driver workman neglected to wear the life preserver jacket available for use, and was washed off the raft, drowning . . . A carpenter stepped on a loose timber, falling 200 feet . . . A carpenter jumped down onto a scaffold, which broke . . . An ironworker sitting on a beam leaned over and lost his balance . . . An ironworker snubbing a line on a barge, was jerked into the water when the post broke —no life vest. . .

"These tell the story of 19 who died. These men were in no way sacrificed to construction speed. While the job was difficult. most of the dangers were certainly avoidable through the exercise of only a little more care, primarily on the part of the men who were hurt. Construction codes for safety are valuable only to the extent that they are observed by the individual workmen. It is again my opinion that codes would have had relatively little effect on the accident experience. While my direct observations were primarily limited to two major contracts, I did not observe 'raw-hiding' of the men or gross carelessness on any part of the work. Such requests as I made for minimizing hazards by improving housekeeping conditions, installing better walkways, ladders, etc., in all cases received a reasonable degree of response. . .

"In one instance, accident severity rate for a contractor was reduced 50%; and the frequency rate 35%. In that organization the experience immediately reversed itself by the discontinuance of the safety program, with the result that both frequency and severity increased greatly.

"Edgar N. Goldstine,
"Consulting Safety Engineer."

PORTERVILLE FIRE HOUSE

W. D. Coates, architect of Fresno, has completed plans for a $40,000 fire house and shop building for the City of Porterville. A contract for erection of the building, which will be reinforced concrete, has been awarded to the Midstate Construction Company of Fresno.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Harris C. Allen
Editor

Address all communications for publication in the Bulletin to the Editor (Harris C. Allen) 557 Market Street, Room 218, San Francisco, California.

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Legislative Bills Under Consideration

THIS number of the Bulletin goes to press just too soon to make an adequate report on Legislative matters. The California Legislature this year has been crowded with an unprecedented number of new measures on all subjects and the State Press has had difficulty getting out the usual copies of the various bills. Mr. Devine of Sacramento, chairman of the Legislative Committee, is gathering information as rapidly as possible. It is understood there are quite a large number of bills that might have a bearing on the building industry, particularly the practice of architecture, and the Executive Board has already taken under consideration such bills as have been published to date. Others will be taken up as they become available.

With such a tremendous number of bills in the Legislature already and others which will undoubtedly be presented during the second session, the State Association feels itself fortunate that it is not presenting at this time any revisions of the State Architectural Practice Act. If there are any such bills presented they have not the authority of the State Association and the Association will oppose or support them according to the merits of the bill involved at such time as the contents may become known.

HOUSING ACT Revisions of the State Housing Act are being presented under the auspices of the Division of Immigration and Housing, under the title of Senate Bill No. 524; presented by Senators Ticke, Law, Phillips, Holahan and Keating. This Bill has the endorsement of the State Association of California Architects and should be supported by all its members who should express to their representatives and senators in the Legislature their approval and desire for its passage. The Bill is in no sense revolutionary, but attempts to clarify various parts of the Act now confused and to supply certain obvious deficiencies.

BRIDGE SIGNS Locally in San Francisco, both the Executive Board of the Association and the advisors of the San Francisco Society of Architects, are supporting the municipal ordinance for restricting advertising along the approaches of the Bay Bridge, which will appear on the ballot at the March election.

EMPLOYMENT It has come to our ears that a number of architects are in need of draftsmen and we wish to call to their attention the fact that the Association registers unemployed draftsmen with records which show their particular adaptability and experience. Such architects should get in touch with the Association because thereby the Association can be of real service to the architect and draftsmen.

IN ONE PLACE It is hoped that we may move back to our own office before the end of this month and everybody in the organization is rejoicing at the prospect of having everything together in one place, where it belongs. It will increase the efficiency of the office considerably.

However, we are still doing business with a temporary telephone number Douglas 5194 and address, 156 Montgomery Street, where the office secretary, Miss Kragen, is to be found every morning.

NORTHERN CALIFORNIA CHAPTER

The regular monthly meeting of Northern California Chapter, A. I. A., was held at the St. Germain Restaurant, San Francisco, January 26, Will G. Corlett, presiding.

William Mooser was present as a guest.

Committee progress on study to revise the By-Laws was reported by Mr. Corlett who stated that revision is mandatory so that Chapter and Institute By-Laws shall conform.

Proposed amendments to the State Housing Act were presented by Mr. Evers with request for Chapter endorsement. The speaker stated that these were the outgrowth of an intensive study of the act by various groups in which he had participated as representative of the Chapter. Following an explanation and discussion of each amendment, unanimous endorsement was voted.

New memberships were announced as follows:

Associate: Lawrence A. Kruse.

Advanced to Institute Membership: Wallace A. Stephen, Wm. Gladstone Merchant, and Reddick H. Bickel.

New Institute Membership: Charles E. Butner.

Institute Membership by Transfer: Mark Daniels.

The American Artists Congress, through Irving Morrow, requested the Chapter to endorse a proposal to form the Federal Art Project into a permanent government department. On motion of Mr. Stringham, the matter was referred to the board of directors for recommendation at the next meeting.

The program theme was "Past Presidents Night." President Corlett stated that the evening had been set apart in recognition of former leaders under whose guidance the Chapter had reached the vigorous life it now enjoys. The recollection of early days, he felt, would be of special interest to the more recent members and the renewal of old fellowships a pleasure.

Past presidents were then announced and those present recalled undertakings and events during their incumbencies which had influenced and stimulated the growth of the Chapter. Those who responded in the sequence of their terms were: William Mooser (1909), George B. McDougall (1912), Edgar A. Mathews (1916), Frederick H. Meyer (1929), Henry H. Gutterson (1930), John J. Donovan (1932), Albert J. Evers (1933).

Others not present sent their regrets. These included Messrs. William B. Faville, George A. Applegarth, John Reid Jr., J. Stewart Fairweather and Harris C. Allen who submitted an interesting written account of the state of the Chapter during his presidency.—J. H. M.

SOUTHERN CALIFORNIA CHAPTER

At the January meeting of Southern California Chapter, A. I. A., soil erosion and efforts that are being made to control it was the theme of a lecture by Fred W. Herbert, agronomist and regional nurseryman of the Soil Conservation Service of the United States Government.

Lantern slides were used to illustrate soil conditions that exist in some parts of California. Mr. Herbert was assisted by Nelson Rutherford, one of his associates.

Ralph C. Flewelling, president of the Chapter, in making his report for the year 1936, stressed the importance of better attendance at meetings. He reviewed the program of last year and stated that an effort would be made to sponsor inspirational programs, to continue the symposia on architecture and to work for the welfare of the profession.

Comprehensive reports of last year's accomplishments were made by Samuel E. Lunden, treasurer, and by George J. Adams, secretary. A report of the auditing committee was made by A. C. Zimmerman, chairman.

The following committee appointments for 1937 were announced:

Membership—Ben H. O'Connor, chairman; Reginald D. Johnson and H. Scott Gerity, with Ulysses Floyd Rible and George B. Allison as assistants.

Ethics and Practice—D. C. Allison, chairman; Roland E. Coate, Edgar Bissantz, Palmer Sabin and H. Roy Kelley.

Legislative—Earl T. Heitschmidt, chairman; J. E. Allison, and A. C. Zimmerman.

Professional Betterment—Herbert J. Powell, chairman; Donald B. Parkinson, Wm. H. Schuchardt, H. C. Chambers and Wm. S. McCay.

Affiliated Societies—Wm. H. Harrison, chairman; Welton D. Becket, Roy C. Mitchell, Breo Freeman and Frank A. Vigers.

NOTICE TO MANUFACTURERS OF BUILDING MATERIALS

A well qualified and successful promotional salesman of architectural products is seeking a new connection. He is a registered architect with excellent entree and a broad practical experience in handling high class building materials.

The Architect and Engineer will be pleased to place interested manufacturers in touch with him.

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STRUCTURAL ENGINEERS ASSOCIATION
OF NORTHERN CALIFORNIA

Vice-President
John J. Gould
Secretary-Treasurer
Alfred P. Fisher
111 Sutter Street
San Francisco
Douglas 1066

ENGINEERS DISCUSS STATE REGISTRATION LAW

THE regular monthly meeting of the Structural Engineers Association of Northern California was held at the Engineers Club, San Francisco, February 3. The meeting was instructive and full of interest for all who practice or are interested in the engineering profession in California.

The subject for discussion was the Registration Law for Civil and Structural Engineers and the Land Surveyors License Law. The meeting can briefly be described as a symposium on the purpose, function, operation and progress of these laws.

During the dinner which preceded the meeting, the Hon. Judge Alden Ames of San Francisco gave a brief but instructive talk on the life of Abraham Lincoln. He brought out the fact that the great emancipator devoted a large part of his time to community service, thereby setting a good example for all real citizens to follow. The short talk by Judge Ames was an inspiring one, and was greatly enjoyed.

Following dinner the meeting took up the question of the Registration Law and Land Surveyors License Law of California. Considerable discussion took place on some of the points of the law which were not generally understood by engineers. The successful application of the laws governing the registration of civil and structural engineers and land surveyors has resulted in a wide spread of interest among the entire engineering profession.

The presence at the meeting of Messrs. Henry D. Dewell, president, Ralph J. Reed, vice-president, and Asa G. Proctor, member, of the State Board of Registration, and the secretary and assistant secretary of the Board, was of great help and gave an excellent opportunity for securing first hand information.

The meeting was one representative of the engineers of the Bay region. Members of the American Society of Civil Engineers and all other National Founder Engineering Societies were present in numbers as were the engineers of many of the larger corporations, utilities and government agencies. Professors and students from Stanford University, University of California, Santa Clara and St. Mary's College were also present, besides Fred H. Meyer and other members of the State Board of Architectural Examiners.

Mr. Dewell was the first speaker. He paid a well deserved tribute to the work of the first Board of Registration which consisted of Donald H. Baker of Los Angeles, president; H. J. Brunnier of San Francisco, vice-president, and Albert H. Givan of Sacramento, secretary. This first Board, in addition to setting up a permanent organization, established rules and regulations, reviewed and passed upon over 6,000 applicants for registration—a stupendous task. It is to be remembered in this connection that the Registration Act provided that within one year after its passage registration must be granted to those men who could show that they were 25 years of age, had been practicing civil engineering for a period of six years and were of good character. The quality of the work done by this Board is shown by the fact that succeeding Boards have found it necessary to revoke or suspend a relatively few number of men registered by the first Board. In the main, the rules and regulations and procedure established by the first Board have been followed by the succeeding Boards.

Mr. Proctor was the second speaker. In his remarks he spoke particularly of the cooperation which the Board has always had from the administrative heads of the Department of Professional and Vocational Standards; namely, Director Bonnelli and Assistant Director Fred H. Taylor.

Board's Activities Described

Mr. Reed was the third speaker. His was the principal address of the evening. He discussed the work of the Board. He felt that without question the California Board, although one of the youngest of the thirty-eight in the United States, is one of the most active and efficient. Probably the principal reason for this is the fact that the members of the California Board are provided with sufficient funds for carrying out the activities prescribed by law. The Board operates within its annual income and has done so for several years. It has a reserve fund of approximately $40,000 which was gained during the first few years of operation. Approximately $20,000 of this reserve fund was borrowed by the State for use in payment of the State Building in San Francisco. This is being paid back with interest and, therefore, can be considered a good investment.

California is one of two states out of thirty-eight which license civil engineers as a separate class.

In reviewing and passing upon applications for registration from both civil engineers and land surveyors, the Board endeavors to interview each applicant in order to gain a first hand impression of the applicant and also to have the applicant meet the Board. Generally speaking, all applicants are now required to pass a written examination for registration as a civil engineer and a special examination for permission to use the title of structural engineer although exceptions are made in the cases of those men who are graduates of approved technical schools and who have had many years of experience and gained definite recognition in the profession. At the present time applicants for registration as civil engineers who are not graduates of approved technical schools, are required to take a two-day examination in the fundamentals of engineering and the passing of this examination is a prerequisite to subsequently taking a two-day examination in civil engineering, design and construction. But one general examination is given in civil engineering although formerly the Board gave some eleven written examinations in the specialized branches of engineering. Registration as a civil engineer is a prerequisite to permission to use the title of structural engineer.

Violators Prosecuted

The Board, through its secretaries, and particularly its assistant secretary and investigator, Mr. Calahan, endeavors to investigate all charges of violations of the Registration Act. Investigations are made of all cases that are brought to the Board's attention. Prosecutions when made are through the offices of the several District Attorneys throughout the State. Usually cooperation is had from these District Attorneys although occasionally there has been absence of such cooperation. The Board believes it has an excellent record of cases investigated and convictions obtained. Where convictions have been obtained, the judge has usually given a suspended sentence, thus putting the violator upon his future good behavior. The Board holds meetings only as business accumulates but endeavors to attend to its business with reasonable promptness. This necessitates about one meeting each month. It is interesting to note that the distribution of business warrants about two meetings in Los Angeles to one in San Francisco.

The Board officially reports its activities in an annual roster. In addition, it now reports its activities to registrants in the form of a quarterly bulletin termed the "Registered Civil Engineer".

Professional Standard Raised

As a result of some seven years' work on the Board of Registration, Mr. Reed felt very definitely that the Registration Act had effectively raised the standing of civil engineers in California. More and more, both public and private employers of engineers are making registration a prerequisite to such employment.

As a part of its administrative work, the Board reviewed the cases of some 100 applicants in whose applications had been found questionable statements of education and experience. As a result of this investigation, some twenty-five revocations were made besides a number of suspensions and reprimands. As a result of this experience the Board examines and investigates minutely the statements of training and experience given in each application. The Board has held a number of formal hearings. Within the last year the licenses of three registrants were revoked as a result of testimony brought out in public hearings. Thus the Board feels that its work is definitely making the profession cognizant of the fact that mal-practice and incompetence by its registrants will not be tolerated. Also by its continued endeavor to improve the quality of its qualifying examinations, it is making registration as a civil engineer and the right to use the title of structural engineer things to be desired and appreciated both by the holder and by the public.

Mr. Reed pointed out the responsibility that rested upon the profession and the registrants of California to see that the standards and personnel of the State Board of Registration were properly maintained for the law gives the Board great powers.

President Saph presided and after the discussion the reports of the various committees were read and accepted. The meeting then adjourned after expressing thanks to Judge Ames for his interesting talk, and to the members of the State Board of Registration for their attendance.

STRUCTURAL ENGINEERS
NORTHERN CALIFORNIA
Standing Committees for 1937

Committee	Chairman
Advisory	John J. Gould
Program	S. S. Gorman
Membership	Thomas F. Chace
Activities & Welfare	Mac. D. Perkins
Legislative	L. H. Nishkian
Legislative	Jesse Rosenwald, Vice-Chairman
Fees	Harold B. Hammil
Structural Engineering & Research	Henry C. Powers
Relation Between Employers & Employees	A. M. Nishkian
Professional Training	Walter Dreyer
Publicity	William H. Popert
Publicity	Hyman Rosenthal, Vice-Chairman

SACRAMENTO MEETING

Elaborate plans are being made for a two days' convention in Sacramento early in March, under the auspices of the Structural Engineers Association of Northern California. The Structural Engineers of Southern California and other engineering societies in the State, will cooperate to make the convention both interesting and worth while.

A number of prominent engineers and business men have been selected to speak on engineering problems of public interest. The second day of the convention will be devoted to inspection tours to the various important civil and structural engineering projects in the vicinity of the Capitol city. S. S. Gorman, structural engineer with the San Francisco - Oakland Bay Bridge Authority is chairman of the convention arrangements and has a large committee actively at work.

ENGINEER'S WIFE PASSES

Word was received in San Francisco early in the month of the passing of Mrs. Fred Crocker, wife of one the members of the Structural Engineers Association.

Mr. Crocker was the chief engineer of construction on the foundations of the Golden Gate Bridge for the Pacific Bridge Company.

HISTORY OF CALIFORNIA COUNTIES

(Continued from January issue)

Sequoia Park, or California Big Trees, attracts thousands of tourists. It covers 604 square miles and has twelve beautiful groves of redwoods, among which is the Giant Forest of 3200 acres containing 500,000 stately trees, 5000 of which measure more than ten feet in diameter. The General Sherman redwood is the largest living thing on earth, and next to the General Grant, a giant sequoia in Fresno county, the oldest thing on earth. There is as much lumber in this tree as can be obtained from 20 acres of average California pine forest; enough to erect 40 five-room homes. A train of 30 cars would be required to transport the trunk alone.

From the top of Mount Whitney an awe-inspiring panorama of mountain peaks, the Devil's Amphitheater, redwood groves and Death Valley, 300 feet below sea level, is revealed.

Allensworth, noted for its grain, alfalfa, cotton and vegetables; Cutler and Orosi, with their raisins, grapes, oranges and lemons; Dinuba, center of the Alta Irrigation District; Exeter, great agriculture district; Lindsay and Porterville in the orange belt; Springville, gateway to mountain resorts, and Tulare, great valley shipping point, all add to the wealth and fame of Tulare county. Visalia, the charming county seat, founded in 1853 by Nathaniel Vise, bear hunter, is noted for its attractive homes. Population: 77,442. Area: 4856 square miles.

TUOLUMNE COUNTY — Created February 18, 1850. This is one of the original twenty-seven counties. "Tuolumne" is a corruption of the Indian word "Talmalamne," which signifies "stone houses or caves," the same as the word Shasta, but in another language. This was the name of a large tribe of Indians who lived on both sides of the river now bearing that name, from which the county derived its patronymic.

Located in the mountains and foothills of the Sierra Nevada range, Tuolumne is one of the five counties of the Mother Lode, which has produced more then $607,000,000 in gold. Tuolumne, alone, has contributed in excess of $112,000,000. A mining district since early days, the county in recent years has made remarkable development in agriculture. Stock raising is an important industry, as well as dairying. Water is plentiful and five cuttings of alfalfa in one year are the rule. Grain, the hardier fruits and vegetables are produced on a growing scale.

Hydro-electric power interests have enormous plants in the county and here is located the famous Hetch Hetchy water and power project of San Francisco. The greater portion of the Stanislaus National Forest with 1,105,000 acres lies within Tuolumne, and on the county's eastern boundary is the Yosemite National Park.

The Stanislaus National Forest offers some of the greatest scenic attractions in the State and hunters and fishermen flock there in seasons. As many as 2,000,000 trout fry have been planted in Tuolumne's streams in a single year. Thousands of motorists annually travel over the county's highways. Tourists particularly are attracted to the "ghost" mining towns made famous by Mark Twain and Bret Harte. The former's old cabin on historic Jackass Hill is owned by the county. Harte's cabin near Groveland still stands. Columbia, once one of the largest cities in California and a contender for the honor of the State's capital, now is a hamlet of about 600 population. In '49 it was a rip-roaring mining camp. The motorist may visit Poker Flat, Table Mountain, Whisky Hill and Jimtown of which Bret Harte wrote. Sonora, the county seat, is an attractive and thriving city and of late years a favorite location for Hollywood moving picture companies in the filming of western dramas. It was in the little village of Tuttletown that Mark Twain won fame as "The Sage of Jackass Hill." Big Oak Flat, Groveland, Tuolumne, Standard and Buck Meadows all are worth visiting. Population: 9271. Area: 2190 square miles.

VENTURA COUNTY—Created March 22, 1872 On March 30, 1782, Padres Junipero Serra and Cambon dedicated a mission at San Buenaventura to San

Buenaventura, Doctor Seraf'ico (St. Bonaventura, Seraf'ic Doctor), which is the name under which Giovani de Fidanza of Tuscany was canonized. Buenaventura is composed of two Spanish words, "Buena" meaning good, and "Ventura" meaning fortune; hence the name signifies "good fortune." The county took its name from the latter Spanish word "Ventura." San Buenaventura has at all times been the name of the town, but this beautiful and euphonious name has been abbreviated by the United States Post Office Department to "Ventura."

Ventura, with its splendid highways and beautiul cities, occupies a most enviable position among the counties of California. As a producer of agricultural products it ranks high in the nation. Because of its great oil fields, it is third among the counties of the State in mineral production. It is noted as an industrial center. Its ocean beaches, mountain scenery mineral hot springs, deep sea fishing, trout streams, game preserves and scenic drives draw thousands of visitors annually.

Every variety of soil is found within the county. Of the ten counties comprising southern California, Ventura claims first rank in the production of beans, apricots, sugar beets and walnuts; second in lemons and fifth in oranges. Compared with all counties of the State, Ventura is second in the production of apricots and lemons, fifth in avocados, guavos and loquats, sixth in oranges, seventh in grapefruit and first in walnuts. The citrus crop annually brings in about $9,440,000. The county is said to be the greatest lima bean producing area in the world. Almonds, grapes, grain, hay, vegetables, berries, apples, figs, peaches and pears are other outstanding crops. Dairying is one of the county's greatest industries.

California's oil industry dates from 1860 but the first oil development of note was on the south slope of Sulphur Mountain in Ventura in 1864. Practically all large oil companies operate in Ventura and thousands of acres have been leased in the vicinity of Oxnard, Somis, Camarillo, Montalvo, Simi, Santa Susana and other sections.

The motorist can find no drives more alluring than those in Ventura, taking in the cities of Camarillo, Fillmore, Moorpark, picturesque Ojai, the prosperous and modern city of Oxnard, delightful Santa Paula, the town of Piru, the "Home of Ramona," immortalized by Helen Hunt Jackson; Wheeler Springs and Seape Canyon.

Ventura, county seat, is famed for its beaches, gasoline and sugar refineries and other industries. Population: 54,976. Area: 1858 square miles.

(Next month Yolo and Yuba Counties)

First Exhibition of Landscape Architecture—San Francisco Museum of Art

WAR MEMORIAL — Civic Center — SAN FRANCISCO

February 12 - March 22, 1937

Modern garden models of the urban and rural plans, models of American historical gardens, typical gardens of today, and garden ornament will be of special interest due to the cash awards for these competitions.

Models of historical gardens characteristic of various countries will also be displayed. The advanced students in Landscape Design of the University of California have prepared renderings of several historical gardens, of England, France, Italy, Spain and India.

There will be related exhibits including garden tapestries, old garden prints, books of landscape design and photographs.

Members of the Pacific Coast Chapter of the American Society of Landscape Architects, will exhibit plans, renderings and photographs of professional work accomplished in California and have also sponsored the following lectures on the Art of Landscape Architecture. You and your friends are cordially invited to attend this Exhibition of Landscape Architecture and to any or all of the lectures scheduled below.

PROGRAM

February 14, 1937

Sunday, 3 P. M.—SYMPOSIUM: "CONTEMPORARY GARDEN ART."
Conducted by Pacific Coast Chapter, American Society of Landscape Architects.

February 17

Wednesday, 8 P. M.—"THE LANDSCAPE ARCHITECT AND STATE AND NATIONAL PARKS."
Mr. Newton Drury, Executive of the California State Park Commission and Secretary of Save-The-Redwoods League, Associate Member of the Pacific Coast Chapter, A. S. L. A.
Mr. Thomas E. Carpenter, National Park Service, Member of the Pacific Coast Chapter, A. S. L. A.

February 21

Sunday, 3 P. M.—"THE ARCHITECT, LANDSCAPE ARCHITECT, AND CLIENT."
Mr. Henry Gutterson, A. I. A.
Mrs. Helen Van Pelt, A. S. L. A.
Mrs. Norman Livermore, San Anselmo, California.

February 24

Wednesday, 8 P. M.—"GARDENS OF MEXICO"—Illustrated.
Mr. E. Leslie Kiler, Landscape Architect, Stanford University.

February 28

Sunday, 3 P. M.—"THE GARDENS OF ITALY"—Illustrated.
Professor John William Gregg, Division of Landscape Design, University of California, Berkeley. Member A. S. L. A.

March 3

Wednesday, 8 P. M.—"GARDENS OF ENGLAND"—Illustrated.
Mr. Butler Sturtevant, Landscape Architect. Member A. S. L. A.

March 7 (Opening of National Conservation Week)

Sunday, 3 P. M.— REGIONAL PLANNING FOR THE BAY REGION.'
Mr. Hugh Pomeroy, City and Regional Planner.

March 10

Wednesday, 8 P. M.—"GARDENS OF SPAIN."
Professor Harry W. Shepherd, Division of Landscape Design, University of California, Berkeley. Member A. S. L. A.

March 14

Sunday, 3 P. M.—"THE LANDSCAPE ARCHITECT OF THE FUTURE."
Mr. Irving Morrow, A. I. A., Associate Member A. S. L. A., Advisory Architect, Golden Gate Bridge.

March 17

Wednesday, 8 P. M.—"THE LANDSCAPE ARCHITECT AND CIVIC AFFAIRS."
Mr. Frederick N. Evans, Landscape Architect for City of Sacramento. Fellow Member, A. S. L. A.

March 20

Sunday, 3 P. M.—"NATIONAL CONTRIBUTIONS TO GARDEN ART."
Professor Eugene Neuhaus, Department of Art, University of California.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

Note—Lumber is scarce and prices vary on account of the strike.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.

Brickwork—
Common. $40 to $45 per 1000 laid, (according to class of work).
Face, $75 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $ .75 sq. ft.
Common f.o.b. cars, $14.00 job cartage.
Face, f.o.b. cars, $45.00 to $50.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 84.00 per M
4x12x12 in.	94.50 per M
6x12x12 in.	126.00 per M
8x12x12 in.	225.00 per M

HOLLOW BUILDING TILE (f.o.b. job)
carload lots.

8x12x5½	$ 94.50
6x12x5½	73.50

Discount 5%.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, 500 ft. roll	5.00
Brownskin Pro-tect-o-mat, 1000 ft. roll	10.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft
Sash cord com. No. 8	1.50 per 100 ft
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45 per ton.

Concrete Work (material at San Francisco bunkers)—Quotations below 2000 lbs. to the ton. $2.00 delivered.

No. 3 rock, at bunkers	$1.80 per ton
No. 4 rock, at bunkers	1.75 per ton
Elliott top gravel, at bunkers	2.10 per ton
Washed gravel, at bunkers	2.10 per ton
Elliott top gravel, at bunkers	2.10 per ton
City gravel, at bunkers	1.75 per ton
River sand, at bunkers	1.80 per ton
Delivered bank sand	1.20 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.

Cement, 2.50 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $3.25 per bbl.
Cement (f.o.b. Job, Oak.) $3.25 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Calaveras White ..... $6.00 per bbl.
Medusa White ..... $8.00 per bbl.
Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
4½ inch Concrete Basement floor..... 14½c to 16c per sq. ft.
2-inch rat-proofing ..... 7½c per sq. ft.
Concrete Steps ..... $1.50 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $7.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—
Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $85.00 per balcony, average.

Floors—
Composition Floors—18c to 35c per sq. ft. In large quantities, 16c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq Ed.
Clr. Otd. Oak	$200.00 M	$150.00 M	$180 M
Sel. Otd. Oak	140.00 M	120.00 M	135 M
Clr. Pla. Oak	135.00 M	107.00 M	120 M
Sel. Pla. Oak	120.00 M	88.00 M	107 M
Clear Maple	140.00 M	100.00 M	
Laying & Finishing	13c ft.	11 ft.	10 ft.

Wage—Floor layers, $7.50 per day.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 35c per sq. foot
Obscure glass, 26c square foot.
Note—Add extra for setting

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site).

No. 1 common	$38.00 per M
No. 2 common.	34.00 per M
Selection O. P. common	39.00 per M
2x4 No. 3 form lumber	28.00 per M
1x4 No. 2 flooring VG	65.00 per M
1x4 No. 3 flooring VG	55.00 per M
1x6 No. 2 flooring VG	65.00 per M
1¾x4 and 6, No. 2 flooring	70.00 per M

Slash grain—

1x4 No. 2 flooring	$50.00 per M
1x4 No. 3 flooring	40.00 per M
No. 1 common run T. & G.	35.00 per M
Lath	8.00 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.10 per bdle
Redwood, No. 2	.90 per bdle.
Red Cedar	1.00 per bdle.

Millwork—
O. P. $110.00 per 1000. R. W., $115.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $6.50 and up, each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $8.00 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.50 each.
Screen doors, $4.00 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high per lineal ft., $6.50 each.
Dining room cases, $7.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	.35c per yard
Three-coat work	.45c per yard
Cold Water Painting	12c per yard
Whitewashing	4c per yard
Turpentine, 80c per gal., in cans and per gal. in drums.	75c
Raw Linseed Oil—80c gal. in bbls.	
Boiled Linseed Oil—85c gal. in bbls.	
Medusa Portland Cement Paint, 20c per lb.	

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lbs. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs. net wt.	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Red Lead in Oil (in steel kegs)

1 ton lots. 100 lb. kegs, net. wt.	12½c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.75 lineal foot
12-inch	2.00 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.75
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	$1.00
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.30
Ceilings with ¾ hat roll channels metal lath	.75
Ceilings with ¾ hat roll channels metal lath plastered	1.75
Shingle partition ¾ channel lath 1 side	.85
Single partition ¾ channel lath 2 sides 2 inches thick	2.75
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	3.00

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.20
2 coats Calaveras cement, brick or concrete wall	1.35
3 coats cement finish, No. 18 gauge wire mesh	1.50
3 coats Calaveras finish, No. 18 gauge wire mesh	2.00

Wood lath, $7.50 per 1000.
2.5-lb. metal lath (dipped) .17
2.5-lb. metal lath (galvanized) .20
3.4-lb. metal lath (dipped) .22
3.4-lb. metal lath (galvanized) .28
¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations. $13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $19.50 ton.
Plasterers Wage Scale $1.25 per hour
Lathers Wage Scale .125 per hour
Hod Carriers Wage Scale 1.10 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $65.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $6.50 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.00 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 to $60.00 per sq. laid according to color and thickness.

Sheet Metal—

Windows—Metal, $2.00 a sq. foot.
Fire doors (average), including hardware. $2.00 per sq. ft.

Skylights—

Copper, 90c sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$110 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $80 to $90 per ton cost of steel; average building, $95.00.

Steel Reinforcing—

$100.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00, Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, Etc.—(See Dealers)

Asphalt Tile—18c to 28c per sq. ft. installed.

SAN FRANCISCO BUILDING TRADES WAGE SCALE

Recommended by the Impartial Wage Board, June 18, 1936. Effective July 1, 1936

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein. This scale applies only to work on buildings and does not include inside or shop workers.

CRAFT	Journeymen Mechanics
Asbestos Workers	$ 8.00
Bricklayers	12.00
Bricklayers' Hodcarriers	8.00
Cabinet Workers (Outside)	9.00
Carpenters	9.00
Cement Finishers	9.00
Cork Insulation Workers	9.00
Electrical Workers	10.00
Electrical Fixture Hangers	8.00
Elevator Constructors	10.40
Engineers, Portable and Hoisting	9.00
Glass Workers (all classifications)	8.50
Hardwood Floormen	9.00
Housesmiths, Architectural Iron (outside)	9.00
Housesmiths, Reinforced Concrete, or Rodmen	9.00
Iron Workers (Bridge and Structural)	11.00
Iron Workers (Hoisting Engineers)	11.00
Laborers (six-day week)	$ 5.50
Lathers, Channel Iron	10.00
Lathers, all others	9.00
Marble Setters	10.00
Millwrights	9.00
Mosaic and Terrazzo Workers (outside)	9.00
Painters	9.00
Painters, Varnishers and Polishers (outside)	9.00
Pile Drivers and Wharf Builders	9.00
Pile Drivers Engineers	10.00
Plasterers	12.00
Plasterers' Hodcarriers	8.00
Plumbers	10.00
Roofers (all classifications)	8.00
Sheet Metal Workers	9.00
Sprinkler Fitters	10.00
Steam Fitters	10.00
Stair Builders	9.00
Stone Cutters, Soft and Granite	9.00
Stone Setters, Soft and Granite	12.00
Stone Derrickmen	9.00
Tile Setters	10.00
Tile, Cork and Rubber	9.00
Welders, Structural Steel Frame on Buildings	11.00
Welders, All Others on Buildings	9.00
Dump Truck Drivers, 2 yards or less	6.00
Dump Truck Drivers, 3 yards	6.50
Dump Truck Drivers, 4 yards	7.00
Dump Truck Drivers, 5 yards	7.00
Dump Truck Drivers, 6 yards	7.50
Truck Drivers of Concrete Mixer Trucks:	
2 yards or less	6.50
3 yards	7.00
4 yards	7.50
5 yards	7.50
6 yards	8.00

GENERAL WORKING CONDITIONS

1. Eight hours should constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period should be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday, inclusive, should constitute a week's work, except for building laborers.
5. The wages set forth herein should be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs except for intra-city fares should be paid by contractor.
8. Traveling time in excess of one hour each way should be paid for at straight time rates.
9. Overtime should be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter should be paid double time. Saturdays (except for Laborers), Sundays and Holidays from 12 midnight of the preceding day, should be paid double time. Irrespective of starting time, overtime for Cement Finishers should not commence until after eight hours of work, except that after 12 midnight overtime for cement finishers should be paid at the rate of time and one-half for the first four hours and double time thereafter. Shift work for cement workers should be subject to the provisions of paragraph 11.
10. On Saturday Laborers should be paid straight time up to eight hours. Overtime rates should be paid as specified in paragraph 9.
11. Where two shifts are worked in any twenty-four hours, shift time should be straight time. Where three shifts are worked, eight hours' pay should be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, should be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men then reporting for work should work at straight time. Any work performed on such jobs after midnight should be paid time and one-half up to four hours of overtime and double time thereafter.
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided should be entitled to two hours' pay.
16. This award should be effective in the City and County of San Francisco.

With the Architects

TO REMODEL AUDITORIUM

The Kings City Grammar School District has authorized the expenditure of $50,000 remodeling the present school auditorium and building a two-room addition. The plans are being drawn by Charles E. Butner of Salinas.

Other work in Mr. Butner's office includes a one-story hollow tile cat and dog hospital for Dr. C. B. Outhier of Salinas; an $8,000 reinforced concrete store building on Main Street, Salinas, for Mrs. Duncan, and an eight-room house near Salinas for W. B. Lamb; a $6,500 house for B. R. Daughters and an $8,500 residence in Fresno for Thomas Cooper.

FACTORY ADDITION

From plans by Frederick H. Reimers, 233 Post Street, San Francisco, the Friden Calculating Company, 2350 Washington Avenue, San Leandro, will build a $30,000 steel frame and glazed brick addition. There will be Masterpave floors and an automatic fire sprinkler system.

Mr. Reimers is also at work on drawings for a group of six French Colonial houses in Piedmont for an unnamed client.

SAN FRANCISCO APARTMENTS

A six-story reinforced concrete apartment house with steel frame and automatic passenger elevators, has been designed by H. C. Baumann, 251 Kearny Street, San Francisco, for Francis Skelly. The estimated cost of the building is $150,000. There will be 30 three and four-room apartments. Mr. Baumann has also completed plans for a $17,000 residence on Bay Street, west of Leavenworth, San Francisco, for the Bayshore Realty Company.

PERSONAL

C. Frank Mahon of Tacoma is resuming activity at his office in the Provident Building. He has several residential projects in the planning stage, and is handling some public school jobs. For the past few years Mr. Mahon has been actively engaged as manager of the Brookdale Golf Club.

Theodore R. Jacobs, architect, announces the removal of his offices from 315 South Broadway, Los Angeles, to 1605 Cahuenga Boulevard, Hollywood.

RADIO STATION

F. F. Amandes has prepared plans for interior remodeling at 230 Eddy Street, San Francisco, for a broadcasting station. W. Adrian is the structural engineer.

WAREHOUSE AND OFFICES

A one-story reinforced concrete warehouse and office building has been designed by Jesse Rosenwald, 525 Market Street, San Francisco. for Sussman, Wormser & Company of Oakland. The building will be erected on Jackson Street, between Fourth and Fifth Streets, Oakland, and will cover ground area, 200 by 225 feet, with wood trusses, steel sash, asphalt tile floors and composition roof. The estimated cost is $75,000.

SCARCITY OF CONTRACTORS

San Francisco architects report a scarcity of contractors for $6500 to $10,000 residence work. Those who usually figure this type of work appear all to be busy and they are not seeking new jobs. One architect sought figures from no less than ten different firms on a $9,000 house recently and he induced just one out of the ten to submit a bid.

OAKLAND SHOP BUILDING

B. Marcus Priteca, architect for Warner Brothers, is preparing plans for a Hollywood style store building to occupy the Warner Brothers property adjoining the Elks Building, Broadway, Oakland. There will be 125 feet on Broadway with parking facilities back of the 100-foot depth line. The new building will cost $100,000.

COUNTRY ESTATE BUILDINGS

Plans have been prepared by Messrs. Bakewell and Weihe, 251 Kearny Street, San Francisco, for a group of country buildings at Woodside, to include a residence, kennels and garage. Miss Lydia Hopkins is the owner. Construction will be wood frame and stucco.

SAN MATEO RESIDENCE

A house of eight rooms and three baths will be built for Henry Meyer in San Mateo Park, San Mateo, from plans by Leo J. Sharp, 1477 Burlingame Avenue, Burlingame, at a cost of $10,500. Mr. Sharp has also designed a $14,000 residence in Hillsborough for Wallace Sheehan.

EARLY CALIFORNIA RESIDENCE

Henry H. Gutterson, 526 Powell Street, San Francisco, has taken bids for a $10.000 early California style residence to be built in the Del Mesa Tract, Ross, California, for Mr. Jacobi.

FRICK NAMED CHIEF OF STAFF

Appointment of Edward L. Frick as chief of the Division of Architecture, Golden Gate International Exposition, was recently announced by the Exposition president, Leland W. Cutler. Mr. Frick, for many years associated with Arthur Brown, Jr., will act primarily as liaison officer between the Exposition's Department of Works, headed by W. P. Day, and the Architectural Commission, of which Mr. Brown is chairman.

Graduate of the Ecole des Beaux-Arts, Paris, Frick is a director of the Northern California Chapter of the American Institute of Architects. He served as principal assistant to Brown on the famed "triangle group" in Washington, D. C., which includes the Department of Labor and Interstate Commerce Commission Buildings.

Frick served as a designer in the office of Bakewell & Brown, architects, and worked on such important buildings as the San Francisco City Hall, Pasadena City Hall, and buildings at Stanford University and the University of California.

ENGINEERS LEARN OF CORROSION

A joint meeting of the four Founder Societies sponsored by the American Institute of Mining and Metallurgical Engineers, was held at the Engineers' Club, San Francisco, on the evening of January 28. The three other organizations comprising the Founder Societies are the American Society of Civil Engineers, American Institute of Electrical Engineers and American Society of Mechanical Engineers. The technical program which followed the dinner included an interesting paper on "Corrosion" by Dr. Colin G. Fink of Columbia University and a paper on "The Prevention of Corrosion by Electrical Means," by W. R. Schneider of the Pacific Gas and Electric Company.

J. J. BACKUS

J. J. Backus, general manager of the Los Angeles City Department of Building and Safety, and for 19 years chief building inspector, died of pneumonia January 24 at St. Vincent's Hospital, Los Angeles, where he had been removed two days previous from his home at 131 South Avenue 60. Mr. Backus had been in ill health for some time, but had been at his office in the city hall a few days before his death. He was 73 years of age.

BRICK VENEER HOUSE

William W. Wurster of San Francisco has designed a one-story brick veneer house for Nelse Struve of Watsonville. A shingle tile roof and automatic oil heating system are specified.

MARTINEZ LIBRARY

Tentative plans have been accepted by the Library Trustees of Martinez for a new public library on Court Street, Martinez. E. G. Bangs of Oakland is the architect.

STEEL BRIDGE COMPETITION

Students of engineering and architecture are invited to participate in the ninth annual design competition offered by the American Institute of Steel Construction. A circular describing this competition is now being mailed to all the colleges and universities in the United States, and students are asked to submit their designs not later than April 12, 1937. A jury of nationally known authorities will be named to make the selections on or about April 20.

There will be three cash prizes instead of the two prizes offered in previous years. The design selected as the best will receive an award of $150; the second best, $100, and the third, $50.

The subject of the competitive design is a steel highway bridge.

The bridge carries a highway in a straight line over a stream 300 feet wide from bank to bank. A four-lane highway, 40 feet between curbs with one 5-foot sidewalk, is to be carried across the navigable stream, connecting a parkway on the high land to the south with a boulevard on the plateau to the north. Suitable lighting is to be provided for the type of traffic carried.

The required navigation clearance at the center of the stream is 150 feet horizontal and 70 feet vertical (with the necessity of maintaining this clearance prism during construction). There is also a requirement that no piers be built in the stream. On the north river bank is a double track railroad, occupying a right-of-way width of 50 feet, within which no piers may be constructed.

INDUSTRIAL BUILDING

Angus McSweeney, 604 Mission Street, San Francisco, is architect of a one-story reinforced concrete and frame office building which Donald Maas of the Bothin Realty Company will build at Fifteenth and Julian Streets, San Francisco.

MARKET BUILDING

Plans are complete and contracts will be let shortly for a one-story reinforced concrete market building, 50 by 100 feet, at Brewster and Arch Streets, Redwood City. John B. McCool, 9 Geary Street, San Francisco, is architect of the $15,000 structure.

TWO SCHOOL BUILDINGS

Norman R. Coulter, 46 Kearny Street, San Francisco, has completed plans for a one-story frame gymnasium and auditorium at Mendocino for the Mendocino Union High School District; also a four classroom grammar school at Talmage, the two structures to cost $17,000 and $15,000 respectively.

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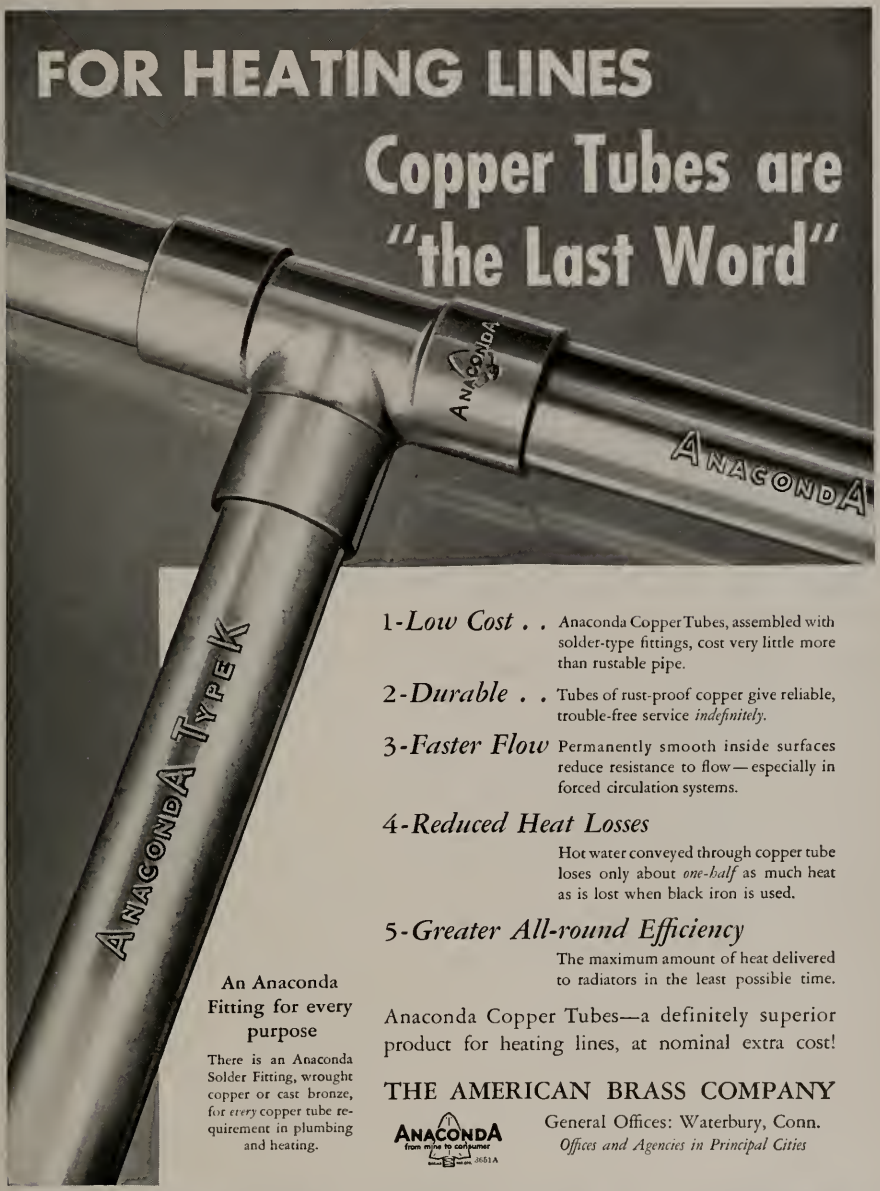

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ARCHITECTURAL TRAINING—NEW PLAN

A new plan of architectural training is developing at Princeton University and at the University of Minnesota, Dean William Emerson of Massachusetts Institute of Technology, chairman of the Education Committee of the American Institute of Architects, says in a report on progress in architectural education during 1936.

"Quite independently, but more or less simultaneously, Princeton and Minnesota are both considering the establishment of brief conferences, or opportunities for the continuation of study after graduation, for recent graduates of architectural schools and younger architects," according to Dean Emerson.

"Princeton hopes to make it possible for a group to come together at the University, at the end of the academic year, to meet and discuss professional and technical questions of the moment with men of distinguished achievement in the field of architecture.

"Minnesota has recently completed a new building for a continuation study center, where professional and other graduates will live together in pleasant surroundings for periods varying from a few days to a few weeks for serious study along their chosen line, whether medicine, law, engineering, or architecture.

"All these movements indicate stirrings in new directions by architectural education as distinct from its more essentially professional job of training the architect himself. Among the schools the searching analysis of the past lean years has brought a better realization of essentials, a recognition that principles, materials, use, are the factors that will determine the architecture of the future rather than stylistic mannerisms or the slavish copying of the past. If the base of our teaching is broad enough and the standard high enough, there will be no lack of opportunity for our students in the future.

"While it may truly be said that architectural education is a constant variable, there is general agreement that the best promise for healthy growth lies in a sane use of our past inheritance, rather than a sudden and radical break with the past on the assumption that our modern world calls for a modern architecture that can safely ignore the inheritance of other ages.

"New tendencies are based on a plea for sincerity, an elimination of artificial and obsolete decoration, and a recognition of the inescapable relation between sound construction and good design. The barriers that have too often kept architecture, city planning, engineering, and landscape design in separate pigeonholes are being broken down. Design as the cement that binds these subjects indissolubly together is winning a recognition that promises cooperation among professional men in all these fields. Such cooperation assures adequate opportunity for each in his own field, coupled with a common interest by all in the success of their joint efforts.

"Fewer students, better teaching, and the understanding cooperation of the architect's offices, offer a

combination that is certain to qualify the architectural student of the future, far better than in the recent past, to meet the demands that are sure to descend upon him after graduation whether or not the promised 'boom' occurs.

"Architectural education has an ever widening opportunity both in its relation to the public and to the profession. There is a constantly growing public with an informed appreciation of the part that trained ability in design plays in adding the element of beauty to those articles that surround our daily lives.

"Industry recognizes this larger public and responds to it by a conspicuous improvement in the aesthetic value of its product. Lectures to schools, colleges, and clubs on the significance of the fine arts, and scholarships for the better training of art teachers and art students, help to increase the numbers of the well-informed and critical public."

CELOTEX AND NORTHWEST MAGNESITE

The negotiations whereby the Celotex Corporation becomes the exclusive sales agent of Thermax Structural Insulation and Absorbex Acoustical Corrective have recently been completed.

In announcing the arrangement, which became effective January 1, B. G. Dahlberg, President of Celotex Corporation, stated:

"Thermax Structural Insulation and Absorbex Acoustical Corrective are distinctly different from Celotex both in physical properties and appearance. They have been marketed in the United States for a little over 5 years, and in Europe since 1918. Something over 300,000,000 board feet have been sold. Manufacturing facilities are located at Chewelah, Washington, in the heart of the source of their raw materials—timber and refined magnesite cement—insuring uniform and economical production.

"The largest potential markets for Thermax lie in the construction of frame buildings, industrial roof decks, fireproof partitions, structural walls and ceilings, where insulation, structural strength and sound isolation are essential. Principal markets for Absorbex are in offices, public buildings and general business places, where acoustical correction, fireproofing and beauty are governing factors."

BERKELEY RESIDENCE

E. L. Rogers is the owner of a seven-room frame and stucco house to be built on Regal Road, Berkeley, from plans by Frederick Confer, 3147 Claremont Avenue, Berkeley. The owner plans to spend $10,000 on the improvements.

COLD STORAGE BUILDING

National Ice and Cold Storage Company will build a two-story insulated ice and cold storage building at Yuba City, Sutter County, California. The company's main office is at 417 Montgomery Street, San Francisco.

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A YEAR OF ELECTRICAL PROGRESS

THE year 1936 was a year of electrical progress. Power consumption rose to new heights when, for the first time, two billion kilowatt-hour weeks were consistently recorded by the central stations of the United States. Advances in the design of large generators, better motors and control apparatus, improvements in lighting, an expanding market for rural electrification, outstanding developments in research laboratories, all serve to accentuate the electrical achievements of the past twelve months.

The largest water-wheel generators in the world are now installed in the power plant at Boulder Dam. Westinghouse supplied two of the largest units each of which is rated at 62,500 kilowatts and whose rotors are 25 feet in diameter. The capacity of this plant, when its 17 generators are operating, will represent the largest concentration of power in the United States.

Other giants in the Boulder Dam system are the world's largest transformers now installed at the Los Angeles end of the 285 mile power line to step-down the 287,000 volts to a lower voltage required by the city's network. The largest frequency changer ever developed will also be located at Los Angeles to change the 60 cycle current, received over the Boulder Dam line to 50 cycles required by part of the present electrical system of Los Angeles.

A new development in power generation are high-pressure, high temperature turbines turning hydrogen-cooled generators. Steam temperatures, up to 900 degrees Fahrenheit are now being used, a temperature at which steel glows. One outstanding turbine-generator unit, soon will be installed in New York. It consists of two turbines in tandem driving a single 50,000 kilowatt hydrogen-cooled generator at 3600 rpm. The generator rotor will turn in an atmosphere of sealed-in hydrogen and thus its losses have been reduced by 10 per cent.

Industries, as well as central stations, are beginning to use high-pressure steam for power generation and processing. One of the latest industrial super-position turbines from which steam will be taken automatically at 400 pounds pressure for process requirements will soon be installed in Pittsburgh.

Outstanding is a new street car generally known as the President's Conference Car—the president in this case referring to the head of the railway association. About 400 of these new cars have been placed in six major cities of the United States. The car represents a major improvement over its predecessors. It glides along quietly; its appearance is pleasing; windows are wide; seats are comfortable; lighting is of high intensity and glareless. Fast in its get-away it can accelerate at nearly twice the speed of ordinary street cars. Propelling equipment consists of four 55-horsepower motors. It is expected that the new type car will go into service in many new cities the next few years.

New types of trolley buses have been developed. With greater agility, lighter weight, lower operating costs, this new vehicle is applied to service in districts just beyond the crowded sections of cities. The coach weighs 1000 pounds less than previous vehicles and has but one 125 horsepower motor.

Subway cars in New York now operate at speeds sometimes exceeding 50 miles per hour. Their faster operation has been made possible by nearly doubled acceleration and braking rate. Each train has twelve 75 horsepower motors.

New electrically powered steel mills are now in operation throughout the United States. Their production record is amazing compared to what it was a few years ago. For example, one tin plate mill produced a record of 730 tons of tin plate in a day. This strip about a hundredth of an inch thick and nearly a yard wide races out of the last stand at the rate of 1300 feet per minute, (approximately 15 miles per hour). Such mills are driven by individual motors of from 400 horsepower at the first stand to 1500 horsepower at the last stand. The stands are only about an arms length apart.

Engineers are probing deeper and deeper into the earth in the search for oil on which life has come to depend. Last year the two most powerful drilling outfits ever used were drilling holes in California nearly two miles deep. Tools for this purpose may weigh as much as 300,000 pounds. Drilling, hoisting and other operations, are handled electrically.

A motor bus, at the end of the run may now roll into a garage covered with mud. As it moves slowly down the corridor water sprays from different directions suddenly appear and several pairs of revolving brushes start briskly wiping off the muck, deftly following the contours of the steel sides and the windows. In a few seconds the bus has passed through the section, water is shut off and the bus is spic and span again. The driver hasn't left his seat, no workmen are in evidence. Photo-electric tubes, of course, stand at the water and brush controls and handle the whole job. One interesting application of the electronic art.

A new market for electrical equipment, estimated at more than a billion dollars, has been opened due to the expansion of rural electrification. Rapid advances are expected to be made in supplying power to farms, now without it, in 1937.

Progress made in highway lighting forecasts an expanding use of this means to provide safety on highways. Many new installations, made in 1936, definitely show a trend toward the illumination of heavily traveled roads.

Home appliances continue to be improved. They continue to improve in efficiency and in appearance and gains in sales testify to their wide application in homes of the United States. Refrigerators, for example, set new records for sales in 1936, when more than 2,000,000 units were placed in service.

Half again as many electric ranges were installed in 1936 than the year previous it has been reported, with

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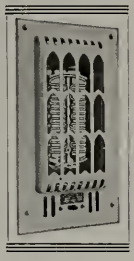

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next year's requirements probably to be much larger.

Manufacturers are now designing complete kitchens as models for home owners.

Air conditioning equipment made large gains during 1936 with increased applications foreseen by all manufacturers in 1937.

NATION-WIDE SMALL HOME PROGRAM

A nation-wide program to demonstrate the feasibility of construction of low priced homes, has recently been launched by national organizations identified with the building industry.

Associations representing the lumber, concrete and brick industries are sponsoring the program which carries out general principles of small house construction evolved by the Federal Housing Administration.

The National Lumber Manufacturers Association and the National Retail Lumber Dealers Association are sponsoring the national demonstration home program for the lumber industry. In addition, the National Concrete Masonry Association, the National Concrete Contractors Association and the Brick Manufacturers Association of America are planning similar demonstrations.

The long-range objective of the program is to make available to approximately 70 per cent of the nation's families, properly designed and well-constructed homes containing minimum requirements of livability and comfort.

"This program will attempt to prove," it was stated at the Federal Housing Administration, "that properly designed small houses can be built to sell within a price range that will attract the great mass of potential small home owners comprising a large majority of our population."

The Federal Housing Administration will aid all of these groups in the construction industry in their nation-wide program in every way possible. A series of subdivision conferences will be held during the coming year in large population centers where Housing Administration experts will outline details of land planning to operative builders and others interested in small house construction. Conferences on design and construction will also be held in many cities to give information concerning the principles of planning small houses, while mortgagee conferences will also be held to explain how small homes may be financed by private lending agencies under terms of the Housing Administration's insured mortgage plan.

STARKS AND FLANDERS BUSY

New work in the office of Starks and Flanders, architects of Sacramento, includes a one-story reinforced concrete store building at Davis for R. A. Wells and E. S. McBridge, a club house at Twenty-seventh and N Streets, Sacramento, for the Young Ladies' Institute, and a $12,000 residence.

CITY PLANNING EXHIBIT

A program to stimulate the layman's interest in city planning has recently been announced by the United States Junior Chamber of Commerce through its committee on city planning, headed by William Exton, Jr.

The committee proposes to assemble an extensive city planning exhibit which will be made available to any junior chamber wishing to sponsor an educational project in city planning. Junior chambers in every city will be invited to contribute materials to the exhibit.

First showing will be at the exhibition of city planning to be held by the Mayor's committee on city planning of New York City, beginning February 25. Thereafter, the exhibit will be sent on a tour in which it will be shown in a large number of cities throughout the country.

TO PROMOTE CONCRETE HOUSING

The San Francisco District Office of the Portland Cement Association announces the employment of Sterling Carter, formerly connected with the office of Albert F. Roller, architect, to promote concrete residence construction in northern California. Mr. Carter has had ten years' experience in architectural design and is an architectural graduate of the University of California.

Mr. Carter will assist architects, engineers, contractors and others entering this new field in concrete house construction problems. He will also render service in the field of architectural concrete building construction.

WASHINGTON STATE CHAPTER

At the annual meeting of Washington State Chapter, A.I.A., January 23, last year's officers were all reelected, except Clyde F. Grainger of Thomas, Grainger and Thomas, Seattle, who succeeds Albert M. Allen, Seattle, as treasurer. Carl F. Gould was named the new board member to take the place of B. Marcus Priteca, Seattle.

At the 7 o'clock dinner meeting John Graham of Graham and Painter, Seattle and Shanghai, who returned January 9 from a half-year service at the firm's Shanghai office, told about architectural and building developments in the Far East.

Thomas Neill, executive president of the Washington Construction League, spoke at the afternoon meeting. William H. Crowell, Portland, regional A.I.A. director for the Western Mountain states division, was an invited guest, as were President and Mrs. Leo Paul Sieg and Dr. and Mrs. Herbert H. Gowen of the University of Washington.

Incumbent officers include President Lance. E. Gowen, First Vice President Floyd A. Naramore and Secretary William J. Bain.

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CITY OF "MAGNIFICENT DISTANCES"

In Rome, "magnificent distances" are today's fashion in city architecture. Old stone tenements are being demolished everywhere. Removal of some, in the Borgo district, will let the eye sweep unhampered from the castle of Sant' Angelo on the Tiber to the facade of the Basilica of St. Peter's.

Further plans, long discussed, but not definitely accepted, include the addition of another noble colonnade to those of Bernini, partly encircling St. Peter's Piazza.

"Repaving the piazza is already under way," says a bulletin from the headquarters of the National Geographic Society. "Visitors disgorged from sight-seeing buses in front of the basilica alight on a partly torn-up square, noisy with staccato stuttering of pneumatic drills as workmen remove ancient blocks before replacing them with cement and stone.

"The large piazza, with its colonnades, is an impressive approach to

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world. Two fountains splash there. An 82-foot obelisk, brought from Egypt by Roman conquerors, is one of a dozen piercing Rome's blue sky.

An observant pilgrim, mounting the 22 steps to St. Peter's portico, is certain to notice the celebrated 'Holy Door.' It is a stucco rectangle with a bronze cross set in it, and is cracked open every quarter century — then walled up between jubilees. It is closed now. On the Christmas eve preceding jubilee year, 1950, it will be broken again.

"St. Peter's is the largest church in Christendom, covering more than 163,000 square feet. Its immensity is so broken up by the four huge piers supporting the dome, and by many gigantic statues, that some visitors on first entering the nave find they have been more awed by much smaller St. Paul's Cathedral in London, or the Cathedral of Milan.

"Because of the cosmopolitan crowds of pilgrims surging into St. Peter's by thousands on feast days, confessions are heard in 10 languages, as signs on the confessionals indicate.

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"Among the impressive sculptures adorning the church is Michelangelo's marble Pieta carved when he was 25 years old. The statue which most Catholics flock to see is that of St. Peter seated, in less than life-size bronze, under a red and gold canopy.

"Around the interior walls are 39 large copies of religious paintings that hang in the Vatican and other galleries. Beautiful shades of blue predominate. From a distance they resemble fine oil paintings. Approaching closer, one sees thousands of tiny pieces of mosaic carefully fitted together. In the nearby papal mosaic factory visitors may see similar pictures made.

"Among the tombs and memorials in St. Peter's are those of numerous Popes, of Queen Christiana of Sweden, of the composer, Palestrina, celebrated for his antiphonal music.

G. G. BRIDGE CELEBRATION

The Golden Gate Bridge, longest suspension span in the world, will be completed in time for a four day celebration in San Francisco in May.

Sweeping majestically across San Francisco's famed Golden Gate, through which the Argonauts first glimpsed the land of their golden hopes 88 years ago, this gigantic bridge will be among the most impressively beautiful structures built by man.

The Golden Gate Bridge Fiesta, as the opening celebration will be known, is aimed to eclipse anything of its kind ever seen in the West, and plans already advanced call for a series of brilliant and colorful land, water and aerial pageantry and other activities for four wondrous days and nights.

It will be a fiesta of free-souled gayety, laughing, dancing and making merry together with San Francisco and its picturesque Redwood Empire counties to the north holding 'Open House' and inviting the world to enter and visit.

The celebration is to be international in scope, for the $35,000,000 bridge will break the last major water barrier to the north of San Francisco and offer a continuous highway between Canada and Mexico via San

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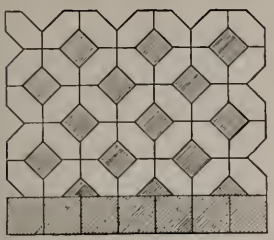
The President of the United States will be asked to attend in person, the President of Mexico will be invited, as will be the Governor General of Canada, the Lieutenant Governor of British Columbia, the Governors of every state in the United States, and representatives of every other foreign government.

Already Mayor Angelo J. Rossi has cabled Premier Mussolini of Italy, on behalf of the people of San Francisco, inviting him to stage his projected Rome to San Francisco aerial flight during the Fiesta. Il Duce's second son, Bruno, may be a co-pilot on the proposed flight with Major Attilio Biseo, Mussolini's own personal pilot. Major Biseo flew in the Balbo massed flights to Chicago during the Century of Progress three years ago.

Another Fiesta idea is to have each maritime nation of the world participate in a mighty naval parade through the Golden Gate and under the bridge into San Francisco's harbor as a spectacular feature of the span opening.

Plans likewise have been approved for the mobilization of two international cavalcades—one from Mexico and the other from Canada—to participate in the celebration. It is proposed to have the cavalcade originating in Canada start out with members of the Royal Northwest Mounted Police in full regalia, native Indians in costume, dog teams from Alaska and invited dignitaries, then to pick up delegations in Washington and Oregon en route. Similarly, the cavalcade from Mexico would journey northward with entertainers, singers and dancers in costume and distinguished guests.

The cavalcades would be so timed as to converge at the Golden Gate Bridge and there participate in the opening events. The suggestion for the cavalcades was advanced by the Redwood Empire Association of California and Harry G. Ridgway, chairman of the celebrations committee of that organization, has been named head of an interstate committee to arrange for this colorful part of the program.



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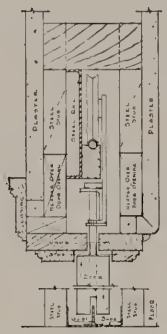

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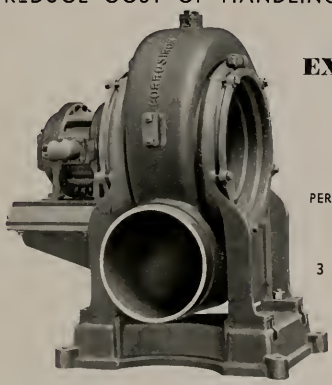

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Residence of W. H. Hall, Sausalito
Frederick L. Confer, Architect.
J. R. Armstrong, Contractor.

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Contents for March, 1937

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Notes and Comments

WITH the dedication of the Golden Gate Bridge in May the world's two largest bridges will have become a reality. Both structures represent unprecedented engineering accomplishments. Neither had its prototype. Problems found in no other bridge previously built confronted the designers. The San Francisco Bay Bridge is really three in one.

The Golden Gate Bridge has the largest solid underwater foundation pier in the world—155 by 300 feet—144 feet high—built on hard rock against a continuous tidal flow of four to eight miles per hour.

Other "largest in the world" features are the immense bridge towers, each 746 feet above water level.

Longest span—4,200 feet—nearly the combined length of the two major San Francisco Bay spans.

Largest cables ever spun—36 1/16 inches in finished diameter with a total length of 7,770 feet each; total length of project, including 9,200 feet of approach viaducts, 3¾ miles.

The architectural treatment of the bridge is noteworthy. Commonly used "X" bracing has been eliminated, producing an unique and beautiful structure.

* * *

WE quote from the Bulletin of the Illinois Society of Architects:

"The architectural press keeps its readers on the qui vive over the two world's fairs to be held in the United States in 1939—one in New York, the other in San Francisco. While many of the projects for these two undertakings may never materialize, the general plan of each has been fixed and the sites determined upon.

"The New York Fair has one advantage in that New York is the home of nearly all the journals and publicity and propaganda come to it as a matter of course. Its site is in the Flatbush section of Brooklyn on Long Island, a low, swamp section that has been used as an ash and refuse dump for generations. Its new name is Flushing Meadow Park. The Exposition plan suggests an airplane in general outline. All sorts of new ideas in planning and in theme are proposed.

"As to the theme, let us quote Wallace K. Harrison of the architectural firm, Harrison and Fouilhoux, selected to design the Theme Building: 'The essence of the Fair is the expression of the life of the future and that is the idea that we will try to develop in the most modern way, with the added consideration that, after all, this is a show and must be made thrilling.'

"The San Francisco show will call itself Golden Gate International Exposition and will be located on a man-made island in the center of San Francisco Bay. It will celebrate the completion of the world's two greatest bridges across San Francisco Bay, the inauguration of trans-Pacific air service, and the progress of nations bordering the Pacific. After the Exposition, the island will be used for a modern community airport and seaplane base owned and operated by the City and County of San Francisco. It is proposed to spend $40,000,000 on the Golden Gate show.

"The interest maintained by the architectural press through articles and pictures is excellent. If this interest and enthusiasm could be injected into the public press, it might redound to the interest of architecture and architects. We shall continue to read and observe as long as this material is fed us, and in 1939 we shall see what we shall see."

* * *

Little steps won't take you far
Unless you keep on walking
Little words won't say so much
Unless you keep on talking.
Little thoughts don't mean so much
Unless you keep on thinking
This little drink won't make me drunk
Unless I keep on drinking.

—Exchange.

* * *

NEW YORK CITY has taken a very interesting step with regard to its architectural appointments for municipal work—a step that might well be emulated by other cities and especially the Federal Government.

An investigation made something more than two years ago, and shortly after the election of Mayor LaGuardia, showed that under past administrations appointments had been largely controlled by political considerations, and repeated commissions had been awarded to those who stood close to the reigning machine. In one or two cases the amount of architectural commissions ran into millions of dollars.

On January 1, 1935, the situation was definitely called to the Mayor's attention by the Municipal Art Society of New York. Mayor LaGuardia was most interested and cooperative. He authorized calling together the Presidents of all the architectural societies of New York City, together with the President of the Fine Arts Federation, in the endeavor to prepare recommendations which, if adopted, would result in the appointments being based not on political considerations, but on merit. After extended conferences and discussion, a procedure was set up which received the approval of the Mayor.

This provided:

First. Selection of a Jury of Three (with one alternate) by the Committee consisting of the Presidents of the eight sections referred to above.

Second. The transmission by the Civil Service Commission of the City of New York, to every registered architect, of a questionnaire prepared by the Committee of Eight in cooperation with the Civil Service Commission.

Third. The submission of the answers to this questionnaire to the Jury, named as above, and the selection by them of the names of the fifty architects, or firms of architects, which in their judgment are best qualified for municipal appointment during the ensuing year.

This plan was put in operation last year, and in December the Mayor approved the nomination of the new Jury which will make the selection of the list of those especially qualified for the year 1937.

We agree with a writer in the Institute's journal that the day is not far distant when the U. S. Treasury Department will again see the wisdom of employing architects in private practice.

* * *

Citizen A: Did you know there were no skyscrapers in Heaven?
Citizen B: Why?
Citizen A: No architects nor engineers.

—Federal Architect.

* * *

INTEREST of the profession is being centered in the ultimate practicability of the unique factory and office building which Frank Lloyd Wright has designed for the S. C. Johnson Company of Racine, Wisconsin. A perspective of the structure, pictured in this magazine last month, has occasioned no little interest because of the unusual design, structurally and architecturally.

According to Mr. Wright this new building will be a highly developed synthesis of form and idea—more highly developed than has been possible in the past because it is a building without windowed walls. "It consists," he says, "of a great workroom breathing from above through two nostrils; a building having dignified character and appropriate proportions, simply and sincerely an interpretation of modern business conditions designed to be as inspiring to live in and work in as any cathedral ever was to worship in. It will undoubtedly stand as an authentic example of Modern American Architecture, true to the traditions of that architecture as they actually exist."

* * *

THE Northern California Chapter, A. I. A. should make every effort to induce the Institute to hold its 1939 convention in San Francisco. Delegates from California should be pledged to start the 1939 movement at the meeting in Boston next June. New York is having a World's Fair the same year so there may be some objection to meeting on the Pacific Coast... Hence preliminary work this year is obviously necessary.

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Bethlehem Steel H-piles have earned widespread recognition as highly efficient and economical material for the foundations of many types of structures. They are particularly recommended for use in piers for highway bridges where full penetration of the piling is essential and the bearing load per pile is high.

The California State Highway bridge over Alameda Creek at Niles, Calif., is typical of the projects in which Bethlehem Steel H-piles are used successfully. Here, H-piles (HP10x42 lb.) were readily driven 40 ft. into gravel and boulders, and developed the required bearing value of 35 tons per pile. The character of the soil structure and the accuracy with which all piles were driven are clearly shown in the illustration of one of the ten stream piers of this bridge. General contractors for this job were Eaton and Smith, San Francisco.

Bethlehem engineers are always available for consultation regarding Steel H-pile installations. Their advice often makes possible the most economical use of Bethlehem Steel H-piles in bridge piers and all other types of foundations where bearing piles are necessary.

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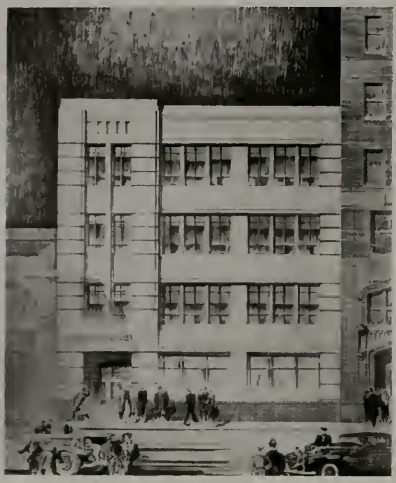

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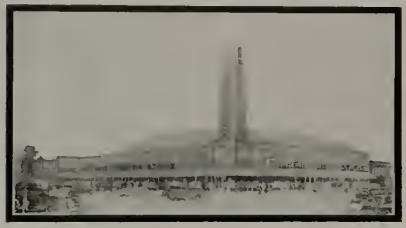

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3

INSURANCE OFFICE BUILDING

1—A four story building for the Maryland Casualty Company at 218 Sansome Street, San Francisco, is under construction. Modern in design, the building will be both fire-proof and quake resistive.

The first floor will be completely furnished with the newest furniture, lighting equipment and fixtures. This is to provide for the continued expansion in business volume and in the territory supervised by the San Francisco office of the tenants.

The second floor will be occupied by the staff of executives and adjusters. Also on this floor will be an office for the zone surgeon.

On the third floor will be located the engineering, inspection and payroll auditing divisions.

The building will be equipped with the latest in steel frame windows and in appearance and structural strength is expected to constitute a substantial addition to other insurance buildings in San Francisco. W. D. Peugh is the architect.

MARKET BUILDING

2—Andrew Williams, the man who is reputed to have sold his interest in the Safeway Stores for a comfortable fortune, has reestablished himself in Oakland as evidenced by the accompanying perspective by Architect Edward T. Foulkes of a combination market and storage building just completed at Broadway and Moss Avenue.

Of reinforced concrete, the structure occupies an area 116 by 300 feet, with market 100 by 130 feet, and the remaining space used for warehouse purposes. Executive offices of the owner are on the second floor of the tower which dominates the architectural design, quite modern in treatment. One hundred foot spans are used to support the vast roof area. Special attention has been given to light and ventilation, while 20 different units provide excellent refrigeration.

The building represents an investment of $100,000, exclusive of land and fixtures.

GLASS MEDAL

3—Sidney Waugh does not like to be known as an industrial designer, especially since the greater part of his life and at least 90 per cent of his time has been spent as a sculptor. He has won outstanding honors both in this country and abroad, ranging from the Prix de Rome and two medals in the Paris Salon, to examples of his work in most of the largest museums and private collections here and abroad.

He first became interested in glass in 1930 when he attended the Swedish Exposition in Stockholm. Here he saw the famous Orrefors etched glass and went through their factory. When the Corning company later approached him with the idea of doing some designs for them in glass, the idea appealed, partly because he saw interesting possibilities in the medium, and partly as a change from his regular work.

His latest is the design of the glass medal to be awarded in the Competition of the Pittsburgh Glass Institute. Since this competition is planned for the purpose of assembling and making public the best work in glass used in a structural and decorative manner during the past 16 months, it is only fitting that the award itself should be an outstanding expression of that aim.

The medal, a facsimile of which is shown, is of crystal-clear finely polished glass, 4½ inches in diameter and approximately ½ inch in thickness. The design, in intaglio on the reverse side of the medal, shows the competition symbol engraved in exquisite detail.

COUNTRY HOUSE AND GARDEN, ON TWO-ACRE LOT. RESIDENCE OF MR. AND MRS. GEORGE POPE, JR., SAN MATEO, CALIFORNIA.

William Wilson Wurster, Architect.
Thomas D. Church, Landscape Architect.

The house lies directly across the center of the lot, with the living room vistas creating a long axis the length of the property.

To take advantage of the views from the living room, gardens were developed on both sides of the house in direct relation and with direct access to the living room. The south garden, with its brick and concrete terrace, is the living part of the garden. The north garden, with its long panel of grass, is built to form a pleasing vista from the main living room window. A perennial border runs the length of the property parallel to the main gardens and is purposely separate from the general garden scheme so that the general effects from the house will not depend upon seasonal color changes. The garden is designed to be easily maintained and for a year-round well-tailored appearance.

(See overpage)

FIRST PRIZE—CITY HOUSE AND GARDEN ON A 25-FOOT FLAT LOT
THOMAS L. CHURCH, LANDSCAPE ARCHITECT
ERNEST BORN, ARCHITECT; CARL BERTIL LUND, ASSOCIATE
House planned to extend the living rooms into the garden, making use of new materials to meet the needs of contemporary city life

EXHIBIT OF LANDSCAPE ARCHITECTURE

DISPLAY OF MODELS VIEWED WITH UNUSUAL INTEREST

by Harry Whitcomb Shepherd

THAT many citizens are interested in the time-honored adventure of establishing livable homes and gardens is evident by the public's acclaim of the Exhibition of Landscape Architecture which has been assembled and arranged by Dr. Grace L. McCann Morley, Director of the San Francisco Museum of Art, in the American Legion Building, San Francisco.

Editor's Note—Dr. Shepherd is Associate Professor of Landscape Design at the University of California, Berkeley. He is a Member of the American Society of Landscape Architects.

The dawn of a new day in landscape architecture has been indicated by the fact that so many prominent architects of fine domestic architecture have cooperated with landscape architects in displaying models, plans, photographs, sketches; interested patrons of art have supplied shadow boxes, historic prints and tapestries; and the allied artists have prepared garden subjects for this exceptional exhibition —first of its kind to be arranged in a large public museum in the United States.

SECOND PRIZE—CITY HOUSE WITH DANCE STUDIO AND GARDEN

EDWARD A. WILLIAMS, LANDSCAPE ARCHITECT
E. T. SPENCER, ARCHITECT

Garden for easy maintenance and privacy for outdoor living

THIRD PRIZE — COUNTRY HOUSE AND GARDEN

ARNE ASBJORN KARTWOLD, DESIGNER OF HOUSE AND GARDEN

Entire project designed for subdivision of space in space for the purpose of clean, fresh, simple and wholesome living. Light, air and sunshine enter in abundance through clear, thin sheets of crystal-glass. Surrounding elements united as relative component parts in a scheme for esthetic living.

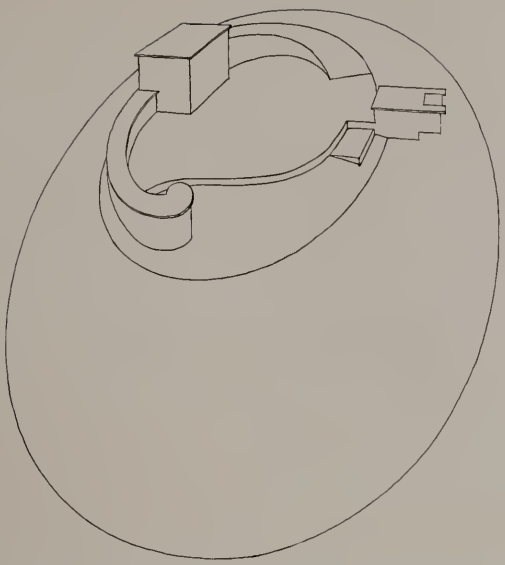
MENTION—COUNTRY HOUSE AND GARDEN, ON CREST OF A BAY REGION HILL 3½-ACRE LOT
GERALDINE KNIGHT, LANDSCAPE ARCHITECT
HERVEY PARKE CLARK, ARCHITECT

According to Director Morley, the purpose of this Exhibition is to show the trend of contemporary landscape architecture. By landscape architecture is meant the art of arranging land surfaces and elements thereon for human use and enjoyment.

The scope of landscape architecture covered in the Exhibition includes the following: Regional and City Planning, National and State Parks, National Forest Recreation, Resettlement, Roadside and Highway Development, City and County Parks, Auto and Trailer Camps, Development of Camp Sites, College and School Ground Development, Real Estate Subdivision, Cemetery Development, Estate and Home Ground Design.

That complete visualization might be possible to the prospective home builder, models of house and garden were exhibited in the form of a competition. Forty-one subjects were judged by a jury composed of Irving Morrow (chairman), San Francisco Architect and Associate of the San Francisco Chapter of the American Society of Landscape Architects; Edward Huntsman-Trout, Landscape Architect

COUNTRY HOUSE AND GARDEN ON STEEP SLOPE, ESTATE OF MR. AND MRS. ARTHUR HOFMANN
Richard J. Neutra, Architect
Otto Winkler, Collaborator
Gertrude Arenstein, Landscape Architect



SPECIAL DISTINGUISHED MENTION—COUNTRY HOUSE AND A LAKE (ABSTRACT PROJECT)

WILLIAM WILSON WURSTER, ARCHITECT
THOMAS D. CHURCH, LANDSCAPE ARCHITECT

"Holiday"—this project is presented with a desire to suggest possibilities—to give free rein to the observer. It might be a pavilion and beach in some mirage, with thought released from actualities and needs.

"An outstanding example of brilliant conception"—The Jury

(Left Page) GARDEN VIEW OF HILLARD HOUSE, PASADENA, CALIFORNIA

Frank Lloyd Wright, Architect

Helen Van Pelt, Landscape Architect

HILLSIDE STUDIO RESIDENCE AND GARDEN FOR AN ARTIST, BERKELEY

Winfield Scott Wellington, Architect and Designer of garden

of Hollywood, Member A.S.L.A., and Mrs. Helen Van Pelt, Landscape Architect of San Anselmo, California, Member A.S.L.A. The awards of the jury were as follows:

Model No. 6—First Prize—$300

City House and Garden for a 25-foot Lot.

By Thomas D. Church, Landscape Architect, San Francisco, Member A.S.L.A.

Ernest Born, Architect; Carl Bertil Lund, Associate Architect.

Model No. 27—Second Prize—$150

City House with Dance Studio and Garden for Outdoor Living.

By Edward A. Williams, Landscape Architect, Palo Alto, California; E. T. Spencer, Architect.

Model No. 18—Third Prize—$75

A Country House and Garden for Outdoor Living.

By Arne Asbjorn Kartwold, Designer, Berkeley, California.

Model No. 19—Honorable Mention

A Country House and Garden for a Three and One-Half Acre Plot.

By Miss Geraldine Knight, Landscape Architect, San Anselmo, California; Hervey Parke Clarke, Architect.

Model No. 26—Honorable Mention

A City Studio House and Garden for a Hillside Lot in Berkeley.

By Winfield Scott Wellington, Architect and Designer, Berkeley and San Francisco.

Model No. 10—Special Honorable Mention With Commendation

A Country House and Lake—An Abstract Project.

By William Wilson Wurster, Architect, and Thomas D. Church, Landscape Architect.

Throughout the study of these landscape models, one is compelled to acknowledge that "streamline" designing of automotive units has far exceeded the place reached in the design of dwellings. For those "doubting Thomases" who stand on the sidelines and criticize, may I suggest that there will soon be adopted, through use and experience, better mediums and elements with which to express more effectively the model of the modern home and garden.

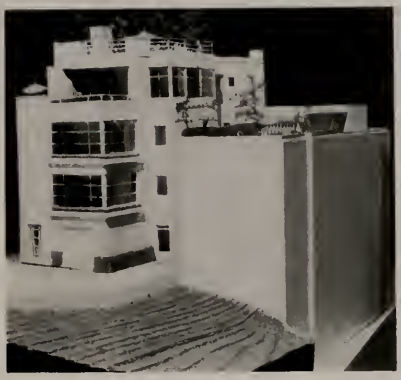
The careful preparation of this unique and attractive exhibition resulted in developing special features, not the least of which is the catalog on "Contemporary Landscape Architecture." I consider this catalog an outstanding achievement which will symbolize a milestone of progress in contemporary landscape art. Seldom will one find in Museum editions the marked evidence of the trends of today in the matter of collaboration, cooperation and coordination of the professional fields represented, and so well expressed by William I.

Garren, architect of San Francisco, on his house and garden model, as follows:

"The completed work is to be the collaboration of the architect, the landscape architect, a color consultant and a sculptor of garden pieces."

House and garden modeling is a comparatively new field. It is true that models of dwellings and large public edifices have been made by artists for some time, and in some cases these models have shown definitely the relationship of site to structure. The fundamental object in landscape modeling is to practically demonstrate the development suggested for those who cannot fully visualize the possibilities of the proposed arrangement. I venture to state that more use will be made of landscape models in the future as the science and art of home building become better understood by a rapidly learning clientele. Clients are better informed today and wish no longer to reproduce the artistic and sometimes impractical expressions of the past, but rather to have created beautiful, functional and relative values within the limits of space and pocketbook.

The American Society of Landscape Architects, in cooperation with Dr. Morley, arranged a series of Symposiums and illustrated lectures on City Planning, National and State Parks, Gardens of England, Italy, Mexico and contemporary landscape art in conjunction with the Exhibition. These lectures and discussions have demonstrated a genuine spirit of cooperation of both architects and landscape architects. During the first Symposium, contemporary design was defined by Hervey Parke Clark, architect, as a "method of approach by which the owner, the architect and the landscape architect determine the program according to the mode of living." I believe that this definition "hits the nail on the head" and indicates what may be expected from the well-informed client of the future. What architect or landscape architect has not heard a client say when viewing sketches: "I cannot visualize that on my site." Not infrequently a client's demand will create difficult problems which must be met and made the best of. A client,



TWO FAMILY ROOF TERRACE DWELLING, TELEGRAPH HILL, SAN FRANCISCO
Gardner A. Dailey, Architect
Margaret Kesley Brown, Landscape Architect

MODEL OF HOUSE AND GROUNDS OF MR. AND MRS. B. H. KNAPP, HILLSBOROUGH, CALIFORNIA
Leo J. Sharps, Architect
Arthur B. Hyde, Landscape Architect

due to pleasant association and enjoyable experience in New England, insists on establishing a colonial home on a Berkeley hillside. The existing topography and the colonial lines seem incompatible. An architect facing this problem desires to render satisfactory professional service and calls into consultation a competent landscape architect whose chief aim is the development of as normal a colonial setting as possible for an obviously foreign structure. This is an example of "making the best of a bad situation." How much better for the client to seek the advise of the architect and landscape architect, both amicable professionals, whose stipend for service rendered is no more when called early than later, and who may assist in realizing the greatest possibilities of site and situation.

Henry Gutterson, architect of San Francisco, and chairman of the first Symposium, "The Client, Architect and Landscape Architect," stated that the reasons for failure in realizing success in the adventure of home development was due to the following:

1. Insistence of a client to reproduce a development which, though effective in a former situation, is inappropriate for the new site.

2. Clientele support of mediocrity in home construction due to speculative promotion.

3. General lack of congenial collaboration of architects and landscape architects.

Our substantial citizenry is quick to discern the sincere attempts of professionals in their behalf. The progressive professional and artisan is ever endeavoring to approach a practical problem with better understanding and with a consciousness of historical background and contemporary experience in the field of art. In this day of violet rays and vitamens, a new artistic expression is honestly sought. It is not a search by groping in darkness, or with compass and chart hurled overboard; it is an honest endeavor to determine more enjoyable and functional approaches to the successful adventure of home building, or public enterprise, according to the mode of living.

May I conclude by stating that throughout all phases of the Exhibition of Landscape Architecture at the San Francisco Museum of Art, a purposeful theme is evident—Cooperation in Composing Contemporary Landscape Architecture.

VOTE OF THE PUBLIC

A ballot for the three favorite models was held during a period of two weeks. The following three led in popularity:

CITY HOUSE AND GARDEN
Thomas D. Church, Landscape Architect
Ernest Born, Architect; Carl Bertil Lund, Associate

COUNTRY HOUSE AND GARDEN
Residence of Mr. and Mrs. Porter Sesnon
Marie Harbeck, Landscape Architect
Gardner A. Dailey, Architect

CITY HOUSE AND GARDEN
Proposed hillside studio residence for an artist, Berkeley
Winfield Scott Wellington, Architect, and Designer of Garden

BEAUTY MARKS G. G. BRIDGE DESIGN

SOME NOTES ON ARCHITECTURE OF STRUCTURE

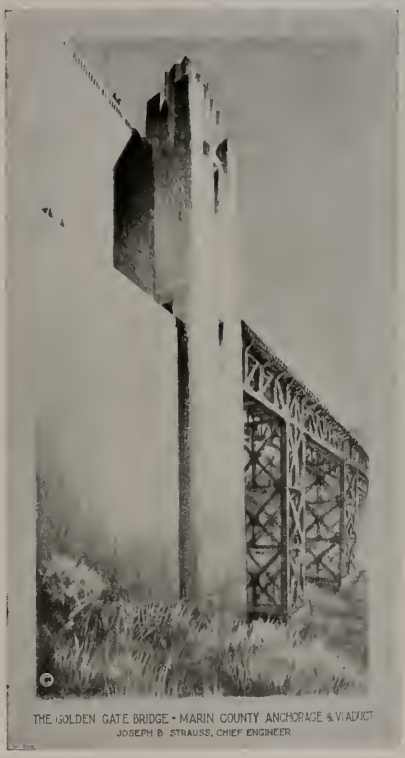
by Irving F. Morrow Consulting Architect

THE project of a bridge across the Golden Gate has for years occupied the mind of the Chief Engineer, Joseph B. Strauss. From the inception of the idea he realized that this bridge would be outstanding from at least two points of view; that of magnitude as an engineering achievement, and that of dominating position in a famous and very beautiful landscape. Each reason prompted a determination to make the structure one of conspicuous beauty.

The first consideration to impose itself upon the beholder is that of unprecedented scale. To put it crudely, but with dramatic emphasis, the clear center span is four fifths of a mile in length, and the towers are about one third the height of Mount Tamalpais. Or expressed in another way, we are all familiar with the Russ Building, with some thirty one or two elements in height. The bridge towers are approximately twice as high, with five elements in height. Obviously none of the ordinary considerations in regard to scale are pertinent.

The division of the towers by the deck—a result, in large measure, of imposed conditions of clearance and of necessary relation of rise to span on the cable — is about one to two, or the ideal one for appearance.

The tower legs themselves are constructed as groups of vertical cells, arranged in plan in the form of an elongated cross, with additional projecting breaks in the re-entrant angles. As these cells rise, groups of the exterior ones stop off at various levels as permitted by



THE GOLDEN GATE BRIDGE - MARIN COUNTY ANCHORAGE & VIADUCT
JOSEPH B. STRAUSS, CHIEF ENGINEER

FANTASTIC
VIEW OF
GOLDEN GATE BRIDGE
FROM LINCOLN PARK
GOLF COURSE,
SAN FRANCISCO.

BRIDGE SPAN
IS 4,200 FEET—
LARGEST IN THE
WORLD

THE GOLDEN GATE BRIDGE · SAN FRANCISCO · TOWER, LOOKING UP
JOSEPH B STRAUSS, CHIEF ENGINEER

been designed from structural steel shapes. This has led to greater consistency, because sophisticated ornamental details of this kind on a purely business-like steel structure are almost certain to prove inharmonious. It has had the added advantage of leaving all parts open for ready painting, with no inaccessible interiors.

Where contrasts of texture were desired, and where large undiversified surfaces were likely to be unsatisfactory in execution, intersecting plane vertical facets were used, scaled in size to the requirements of each situation. This device, which became a sort of typical decorative motif for the architecture, is susceptible to execution in either steel or concrete.

The color of the bridge — an orange vermillion similar to the color of red lead, technically known as "international orange" — has already evoked the most diverse judgments. The reasons prompting its selection are briefly as follows: The magnitude of the structure and its crucial, definitely "located"

structural conditions. The resulting stepping produces naturally an effect characteristic of modern architectural design.

The fullest discussion of these towers from a structural point of view yet to appear is contained in an article by Clifford E. Paine, Principal Assistant Engineer, in the Engineering News Record for October 8, 1936. Two points with interesting architectural implications are there brought out. The use of portal bracing instead of diagonal bracing, and the positions of the bracing struts were determined with reference to appearance; and the decisions proved to be not disadvantageous from the structural point of view.

Throughout the architectural aspects of the bridge the effort was to secure beauty through the composition and proportioning of required features rather than through addition of ornament. Not only has no decoration in the ordinary sense been employed, but features which are commonly made ornamental on such structures, like hand rails and electroliers, have

THE GOLDEN GATE BRIDGE · SAN FRANCISCO PIER AND FENDER
JOSEPH B STRAUSS CHIEF ENGINEER

NIGHT VIEW OF GOLDEN GATE BRIDGE. SPOTTED BY POWERFUL SEARCH LIGHTS THE 746 FOOT TOWERS RISE IN THE DARKNESS LIKE SENTINALS

position in the landscape, suggest that it should be emphasized rather than played down. The proper color for this is naturally a contrasting one. Local atmospheric effects are predominately cool — gray during foggy weather, and blue during sunny weather. This points to a red, earthy color for the structure. The color chosen is also admirable for enhancing the scale. Scale is one of the most elusive of architectural assets, and when achieved in the form, it would be a great misfortune not to have it sustained by the color. (It might be added that certain of the above considerations would imply a free use of color in general in San Francisco architecture; but except for the Panama Pacific International Exposition of almost a quarter of a century ago, architects have continually evaded this obligation). When the bridge is completed, and has been observed through the entire cycle of a year, the appropriateness and beauty of the color will doubtless be quite generally appreciated.

GOLDEN GATE BRIDGE ENGINEERING TRIUMPH

SPAN AND PIER DESIGN WITHOUT PRECEDENT

by James Adam

ON May 28, the world's longest and tallest bridge spanning the Golden Gate, will be officially dedicated. Chief Engineer Joseph B. Strauss announces that the construction of the bridge itself will be completed by May 1.

Two phases of the bridge have attracted the attention of the engineering world from the beginning.

First, the unprecedented length of the span —4,200 feet—and second, the problem presented by the south pier, 1,100 feet off shore, in waters varying from 65 to 100 feet in depth and subject to extreme storm and tidal conditions.

The most difficult part of the project centered about the erection of the south pier. "A critical point in the design," Chief Engineer Strauss called it.

"Our south pier explorations were made in elaborate detail," Mr. Strauss said. "It was a heroic undertaking in itself to make these borings in the open sea with a current varying from seven to nine miles an hour and with waves often 200 feet long and five feet high presenting terrific conditions to do such work."

These borings proved that the foundation rock was satisfactory, but to silence criticism, explorations were continued until the engineers had three full sets of soundings and three full sets of borings. These soundings covered an area of eight to ten acres, taken on 50-foot squares, and the borings were continued until they penetrated into 225 feet of rock.

At that depth rock was found of the same texture as at the surface—hard, dense, fully hydrated serpentine, extending to great depths, and which tested up to 33 tons per square foot. The maximum load was 11 tons and the average between 9 and 10.

The building of the pier was a spectacular operation. An access trestle was first constructed. The footings for the trestle bents were set into the rock by means of dynamite bombs. The trestle had scarcely been built and the first section of the fender placed, when a ship, off her course in the fog, crashed through the trestle and wiped it out. Repaired, it was struck by a storm and all but 400 feet at the shore end was carried off. The trestle was raised five feet and anchored to rock by cables.

To build the pier it was essential to have quiet water, so it was decided to build an enclosure of concrete and steel within which to build the pier.

The plan comprised an elliptical section wall about 115 feet high, 27½ feet at the bottom and 10 feet wide at the top, an oval structure 300 feet by 155 feet, built in the open sea, the first of its kind built section by section, and unit by unit, each section being equivalent to five stories. There were 22 of these sections.

The east end was left open with the idea of floating in a wooden caisson in order to build the pier in the dry. The caisson was gotten in at 4 o'clock in the morning. At 8 o'clock that night Mr. Strauss received a message to come out to the pier. Heavy swells had come in from the sea and the caisson was tossing about like a cork. It looked as if the sea would batter the caisson to pieces. After discussion with the

STRIKING VIEW
OF GOLDEN GATE
BRIDGE TOWERS,
LOOKING NORTH
ALONG THE
BRIDGE FLOOR.

THE MARIN
TOWER DISCERNABLE
IN THE DISTANCE
IS 4,200 FEET
AWAY

contractors, Strauss decided to take the caisson out and proceed along other lines. They closed up the open end of the foundation in the dry by using a series of steel bells 10 feet in diameter, located at different points and providing air locks at the top so they could descend into the bells and inspect the rock bottom.

Thus inspected, the rock was found to be of excellent quality. The contractors then poured a 40-foot mat of concrete under water over the whole area inside the fender and used it as a cofferdam.

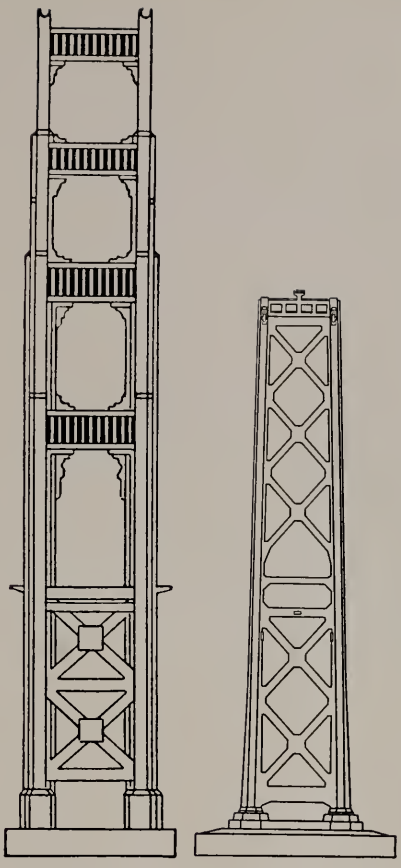
The method adopted in preparing blast holes consisted in mounting small bombs composed of 2-inch pipe, 30 inches long and loaded with 3 pounds of 60% dynamite in a chuck at the end of a steel spud 8 inches in diameter by 30 feet long and weighing about 5,100 pounds. The spud was dropped vertically in its intended position from the end of a derrick boom. The force of the impact would drive the small bomb a short distance into the serpentine formation. The bombs were provided with automatic detonators timed to explode one minute and twenty seconds after lighting the fuse. The explosion thus took place after the bomb had been driven into the serpentine. The explosion sprung a hole about 18 inches in diameter and 1½ or 2 feet deep.

After completion of a blast hole, large bombs made of 8 inch pipe and loaded with 100 to 355 pounds of 60% dynamite were driven into the holes.

The excavation of the material was done from the deck of the derrick barge Ajax with a 4½ yard clam shell bucket. The muck was deposited in a 500 yard dump barge and towed out to deep water.

Building the Marin pier was not a difficult operation. It was based on a projecting rock close to the shore. The top of the rock was cut off, a three-sided cofferdam was built around it and the pier constructed in the usual manner.

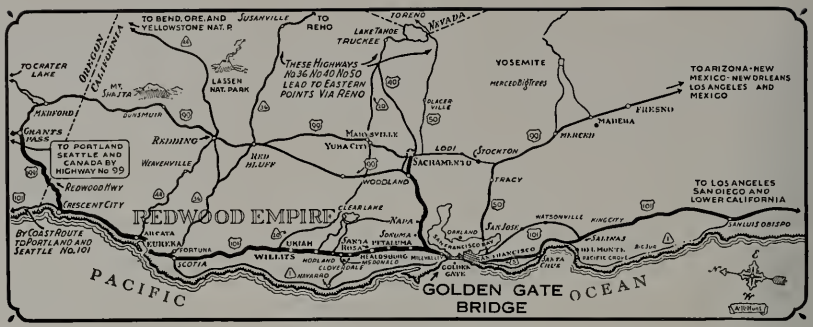
Provision for earthquake forces was made in both piers. Each pier base was tied to the rock at a depth of 30 feet. A steel frame was built within the pier to which the towers were anchored. In addition to this the design provided for a 7% horizontal force at the top of the towers; that is 7% of the vertical load on the towers as an earthquake force.



GOLDEN GATE BRIDGE
TOWERS
HEIGHT 746 FEET

SAN FRANCISCO BAY BRIDGE
TOWERS
AVERAGE HEIGHT 500 FEET

Originally Mr. Strauss had submitted a design for a cantilever suspension bridge, but when the Board of Engineers met in August, 1929, he proposed instead use of a simple suspension bridge. Referring to the change Mr. Strauss explained:



MAP SHOWS PRINCIPAL HIGHWAY CONNECTIONS TO GOLDEN GATE BRIDGE

"I did not attempt to create the longest bridge in the world. On the contrary, I endeavored to make the span length as small as possible. The distance across the Bay where the bridge is located is about one mile. Reducing the main span to the minimum gave an overall span of 4,000 feet. We located the San Francisco pier about 1,100 feet out. When we came to the design of the Marin pier, which was located about 200 feet off-shore, I decided to move that pier back 200 feet and put it on a projecting rock which gave us a span of 4,200 feet instead of 4,000 feet."

There were two War Department hearings. A provisional permit was granted in 1924 giving authority to proceed on the basis of a vertical clearance of 200 feet. In 1930 the vertical clearance was raised to 220 feet minimum and 236 feet maximum, vertically.

That makes the vertical clearance greater than that of any bridge in the world over navigable waters.

The towers stand 746 feet above mean low water which makes them the highest bridge towers in the world. Their base dimension is 121 feet. There are 97 cells at the bottom of each tower leg, diminishing to 21 cells at the top. The material is silicon steel at the top for a limited distance and largely carbon steel toward the bottom. These two towers weigh 44,-

COMPARATIVE STATISTICS OF TWO BRIDGES

	Golden Gate		San Francisco Bay
Authorization	Popular Vote		Legislative Act
Control	District Board		State Commission
Financing	District Bonds		Federal Loan
Height of Towers	746	Feet	500 Average
Length of Main Span	4,200	Feet	2,310
Vertical Clearance—Minimum	220	Feet	200
—Maximum	246	Feet	218
Maximum Length of Cable	7,770	Feet	5,732
Diameter of Cables	36⅛	Inches	28¾
Number of Wires per Cable	27,572		17,464
Total Length of Wire	80,000	Miles	70,815
Weight of Cables	22,000	Tons	18,500
Structural Steel	85,000	Tons	152,000
Employment	25,000,000	Man Hours	54,850,000

000 tons, which is greater than the total weight of the Quebec bridge.

The cable pull of 63,000,000 pounds per cable is resisted by 126,000,000 pounds in the anchorage block. Each anchorage has twin anchorage blocks weighing 64,000 tons each.

Spinning of the two big supporting cables required the use of 80,000 miles of specially-drawn galvanized steel wire, sufficient to encircle the earth three and a half times. The cables are 36½ inches finished diameter.

Erection of the cables necessitated first stretching pilot cables across the Golden Gate and hoisting them to the tower tops. Supported by these cables, foot bridges were erected and the long task of spinning was commenced and finished ahead of the engineer's schedule. Wire was spun at the rate of 1,000 miles a day. The suspended span was built at the rate of 100 feet a day.

In the erection of the suspended structure an innovation was made in the use of rope safety nets.

Wind pressures were taken into account during the designing of the span, which has a safety factor of 2.6 at a wind velocity of 90 miles an hour. The greatest recorded wind velocity at the Golden Gate is 58 miles.

Fiesta to Signal Bridge Completion

Completion of the bridge will be celebrated with a Fiesta beginning May 27 and ending June 2. The Pacific fleet including 150 warships will be in the harbor during the festival. The ships will come to San Francisco directly from the annual maneuvers at sea and will bring between 60,000 and 70,000 officers and men.

The Golden Gate Bridge breaks the last major water barrier on the all-Pacific Coast highway route from Mexico to the Canadian border via San Francisco and the Redwood Empire to the north.

To give dramatic expression to this international interest in the bridge it is proposed to mobilize two spectacular Cavalcades — one originating in Canada and the other in Mexico —both to meet at the bridge on the day of

(Please turn to Page 42)

SOME G. G. BRIDGE COMPARISONS

THE elevation of each of the massive towers of the Golden Gate Bridge is 746 feet. This is 191 feet taller than the Washington Monument and 313 feet taller than the Russ Building, San Francisco's highest structure. . . .

The two 36½-inch cables of the bridge require 80,000 miles of wire. This amount would be sufficient to erect a standard wire fence six feet in height on both sides of the main highway from Canada to the Mexican border, a distance of 1600 miles. . . .

Excavations totalled 553,000 cubic yards. This would equal the volume of material that would be removed from the earth in sinking a mine shaft 10 feet square and 25 miles deep. If this material could be piled in a column 27 square feet in section it would reach a height of 105 miles. . . .

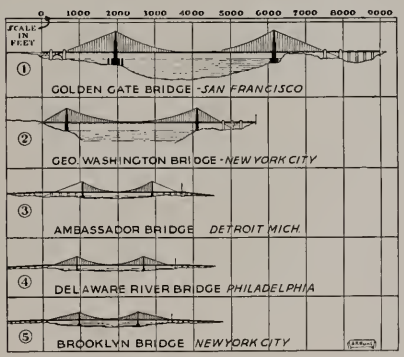
Concrete used in building the bridge equals the displacement of 10 first-line battleships of 33,000 tons each. . . .

The 100,000 tons of steel required to build the bridge would fully load a freight train 20 miles long. . . .

Concrete used would build two 10-foot sidewalks on either side of the highway from Omaha to Chicago. . . .

Lumber used would build a village of 78 modern 5-room bungalows. . . .

If all the rivets used were placed head to toe they would form an enormous serpent, 36 miles in length from head to tail tip.



Comparative drawing of Golden Gate Bridge with other notable bridge structures

STRIKING VIEW OF LIFE SAVING NET, GOLDEN GATE BRIDGE, PART OF WHICH WAS CARRIED INTO THE SEA WITH HUMAN LIFE, DUE TO COLLAPSE OF SCAFFOLDING. PICTURE WAS TAKEN BENEATH DECK OF THE BRIDGE FLOOR. THROUGH THE NET MAY BE SEEN OLD LIME POINT LIGHT HOUSE

RILEY ACT NEEDS CLARIFICATION

CHANGES WOULD FACILITATE BETTER LAW ENFORCEMENT

by A. L. Brinckman, Berkeley Building Inspector

THE following comments on A. B. 2391 (1933) and A. B. 1833 (1935) are submitted as the basis for an affirmative answer to the question, "Do we need a better State 'horizontal force' law?" but the writer hastens to add that incalculable good has already been accomplished by the Riley Act when and where enforced by local authorities. The point of this review is that the law is a good one and should ever remain on the statutes of our State, but that there is need of clarification and improvement in the wording and enforceability of the Act.

Competent legal advice indicates that the Act is definitely enforceable although penalties are not specified therein. They are, however, indirectly specified by the definition in State law of a misdemeanor.

Section 1, (A. B. 1833 amended Sec. 1 of A. B. 2391) now reads as follows:

"Every building of any character, and every part thereof, which is hereafter constructed in any part of the State of California, including every incorporated city, county and incorporated city and county, except such buildings as are hereinafter expressly excepted from the operation of this act, shall be designed and constructed to resist and withstand horizontal forces from any direction of not less than either two (2) per cent of the total vertical design load or for the following applicable wind pressure on the vertical projection of the exposed surface, the horizontal force used to be the one that produces the greatest stresses in the building: twenty (20) pounds per square foot on every portion thereof more than sixty (60) feet in height; fifteen (15) pounds per square foot on every portion thereof not more than sixty (60) feet in height."

If read hurriedly it all seems to make sense, but let's literally pick it to pieces and see what makes it tick.

(1) **"Every building"**—wait! What **is** a "building"? It isn't defined in the act. Is it a tower, a sky-sign, a spectacular, a billboard, an overpass, an auto camp trailer, or an arch?

Well, let it go—we'll do what the lawyers say —take the "reasonable intent" of the law, and say that any artificial assembly of materials which serves to shelter, enclose, or support humans, animals, chattels, or movable property, as the case may be, is a "building."

(2) Alright, **"Every building of any character"** —wait again! "Of any character"—does that mean, regardless of footing material, (ranging from piles to adobe at 1000# p.s.f. to rocky ground at 12,000# p.s.f.); regardless of natural period (from Berkeley City Hall at 0.23 to the U. C. Campanile at 1.18), and regardless of inherent instability (such as height exceeding three times least lateral dimension), that "every building of any character" shall be considered **equally** vulnerable to horizontal forces? That's what it **says,** anyhow, and anywhere in California.

(3) Well, let **that** go too. The next four words are—"and every part thereof." Assuming that the "reasonable intent" was to only specify "and every (structurally effective) part there-

of," what about crane girders, canopies, marquees, and interior walls structurally effective in transmitting forces to resisting elements? The usual "part thereof" would be a panel wall, a wall beam, a spandrel front, or a parapet wall. Surely a plate glass front was not intended to be a "part thereof." But isolated footings need to have proper post or column anchors and they are not part of a **"building"**—yet without anchors it is possible for the columns to shift on the piers during an earthquake.

(4) Passing on to the phrase "horizontal forces from any direction" the idea of instant reversal of forces during a shock is evident, although a casual reading might only convey the impression that the uncertainty of P and S wave directions was implied, or that a "wind" might "blow" from any direction on the "exposed surface."

(5) The next point of interest is the phrase "of not less than either"—this introduces the idea of a minimum design "force" and also the idea that of two as yet unnamed forces, one or the other is bound to be greater in any event. But see (11) below.

(6) The phrase "total vertical design load" is surely simple enough, one would say at first glance, but **is** it so simple? What is meant by "design load"? Unreduced live loads plus dead loads? Or, as in all but warehouse occupancies, is an increasing reduction in live load allowed as the building increases in story height? Another section of the law says that in the absence of a **stress** code, the stresses allowed by the Division of Architecture shall govern, but no where does the matter of assumed **live** loads and allowable **reduction** of same on trusses, girders, and columns receive any attention, yet it is 50% of the design problem.

(7) Leaving (6) for a moment, the phrase "applicable wind pressure" arrests the attention of the reader. "Applicable" to what—the building as a whole **only,** or to "every part thereof"? It doesn't say! (But see the next comment.)

(8) Maybe the question just raised will be answered by the words following "wind pressure" which are:

"On the vertical projection of the exposed surface . . . and every portion thereof."

How can this be? We have to design every part thereof, but how can a marquee or the windward side of a leeward wall (roofed over) have an exposed surface? Possibly the end walls of a bleacher or large grandstand could satisfy this condition.

(9) Assuming "reasonable intent" again, and stretching it mighty thin, we next encounter the words "the horizontal force". Now we have something to go on—both O2g and 15# or 20# "wind" p.s.f. are the horizontal force **units** to use in the design of not only the building as a whole but "every part thereof." Unfortunately, the moment we forget this idea of **unit horizontal design forces,** and read "of the **exposed** surface," the meaning is again clouded.

(10) Anticipating slightly the words "on every portion thereof" (of "exposed surfaces") clinches the "unit force" argument.

(11) Holding to the unit force idea, we are next confronted with the requirement that the force (unit or total?) to be ultimately used in the particular design shall be that force which produces the "greatest stresses" in the **"building."** But what about the "part thereof"? What force would be used? And, suppose, not unreasonably, that for the building **as a whole,** the "gravity" force exactly equalled the "wind" force on the "exposed surface"? Since neither is greater or less, which **type** of force would you use? Or would **no** force apply? See comment in (5).

Remember, we have to use the "force" which produces the greatest **stresses** in the building. Under certain conditions, the relation between the center of gravity and the center of rigidity of a building would cause the production of greater stress in the building due to a 2% "gravity" load than that due to 15# "wind", even though the **total** "wind" load on the "exposed surface" exceeded the 2% "gravity" load.

(12) Taking up the term "exposed surface" again, isn't it true that in the average city business block 95% of the side and rear walls

are in fact **not** "exposed"? And that they are "shielded" by adjoining structures? Then should only the front walls, the only "exposed" surface, be used for computing "wind pressure," and the other three walls be braced on the basis of roof and wall "gravity" design loads? That's not "reasonable intent"!

(13) The last two phrases raise an interesting question: if a building is 80 feet in height, we design the upper 20 feet (parts thereof) for a greater wind load than we do the lower 60 feet, but the building as a whole (exposed surface) may be perfectly uniform in section, area, and plan, as well as elevation—and no one can say that a "wind" force suddenly changes at the 60 feet level from 15# p.s.f. to 20# p.s.f.!

(14) Turning to Section 1 as it now reads, and attempting to give it a logical, common sense interpretation, I would say that all buildings having appreciable mass, such as Class A, B, and C (UBC Type I, II, and III) should be designed as a whole on the "gravity" (2%) basis, and in "parts thereof" on either the "gravity" or "wind" basis, and that all light frame buildings (UBC Type IV and V) should be designed on the "Wind" basis unless heavy loads are imposed.

(15) In regard to "gravity forces," their application is directly proportional, both as to "parts thereof" and the building as a whole, to their weight, and therefore, any interior partitions, machinery footings, cranes, etc. which attach to the building or "part thereof" should certainly be not only designed individually but their resisting action should be accumulated in figuring the final total design force for moments, shears and earth pressures.

(16) I would also say that, in figuring "wind pressures," they should not be horizontally cumulative, but that, however, every interior wall and every exterior wall **should** be designed, as "part thereof," for resistance in "any direction."

This commentary is written for the purpose of drawing out expressions of opinion on the Act and to stimulate some serious thought among engineers, architects, and legislators on the ambiguities in the law. I feel that any general law should say what it means and mean what it says—a fact that has been accomplished in Section 2311 of the Uniform Building Code.

Engineer Gives Endorsement

Editor, Architect and Engineer:

I have read Mr. Brinckman's article entitled "Do We Need a Better State 'Horizontal Force' Law?" The questions raised by the author are all very pertinent. This is a good example of what happens when a law concerning technical matters is put through hurriedly under conditions approaching hysteria.

Many of these questions have been raised and discussed by the legislative committee of the Structural Engineers Association of Northern California, but it has been the general consensus of opinion among engineers that it is better, for the present, to leave the Riley Act alone with all its defects rather than take a chance of losing its very material public benefits.

In connection with this article, I might mention a legal question that is not raised by Mr. Brinckman, namely, that under the Riley Act the various local building codes, where there is such, govern as to stress and loads. As we know these are different in different localities for the same materials or conditions. It becomes a question, therefore, whether such a state law having different requirements in different localities for the same materials and conditions will be held constitutional by the courts.

Yours very truly,

L. H. Nishkian.

—PHOTO BY McCULLAGH

DETAIL, NORTH BERKELEY BRANCH LIBRARY, BERKELEY, CALIFORNIA

JAMES W. PIACHEK, ARCHITECT

MUNICIPAL FIRE HOUSE AND DRILL TOWER, BERKELEY
JAMES W. PLACHEK, ARCHITECT

NORTH BERKELEY BRANCH LIBRARY

CONCRETE STRUCTURE OF MODIFIED SPANISH DESIGN

THE North Berkeley Branch of the Berkeley Public Library system is located upon an irregular piece of land, bounded by Josephine Street, Sonoma Avenue, Hopkins Street and The Alameda in the City of Berkeley. The building was constructed with funds amounting to $42,368 furnished by the city and P. W. A. The style of architecture is Spanish.

Exterior construction of the building is reinforced concrete with terra cotta tile roof and glazed tile in colorful tones for ornamentation. The main entrance is cast stone anchored to the concrete.

From the accompanying plan it will be seen that from the librarian's desk, located in the rotunda, a full view may be had of not only the main reading room but the juvenile reading room, librarian's office, reference and stack rooms, as well as the doors leading to the men's and women's wash rooms, and janitor's closet.

The adult and juvenile reading rooms have wood bookcases flush with the plaster walls above. At the end of each of these rooms is a fireplace. The ceilings have exposed surfaced wood sheathing, rafters and trusses. All wood work is stained, varnished and polychromed.

The rotunda is finished with a high wood base, plastered walls and an exposed wood ceiling of somewhat intricate design. All the wood work is stained and varnished while the large timbers and panels are polychromed. The librarian's office, reference room, stack room and wash rooms have plastered walls and ceilings.

Linoleum floors are used in all the principal room; wash rooms and janitor's closet have tile floors.

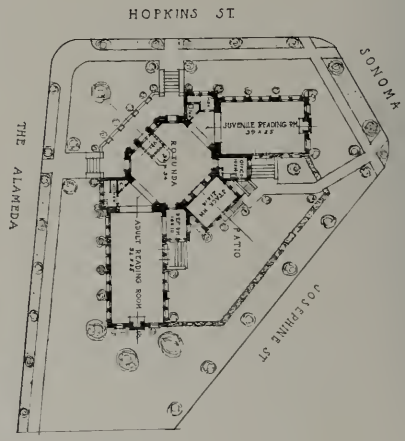
A gas fired boiler generates steam to concealed radiators throughout the building.

W ADRIAN, STRUCTURAL ENGINEER

NORTH BERKELEY BRANCH LIBRARY, BERKELEY, CALIFORNIA

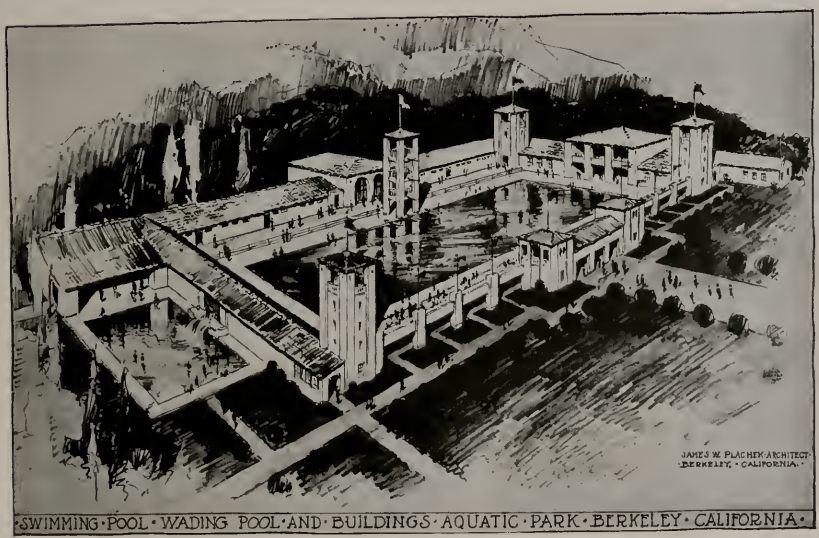
JAMES W. PLACHEK, ARCHITECT

LIBRARIAN'S DESK


HOPKINS ST.
SONOMA
THE ALAMEDA
JUVENILE READING RM.
ADULT READING ROOM
STACKS
STACKS
STACKS

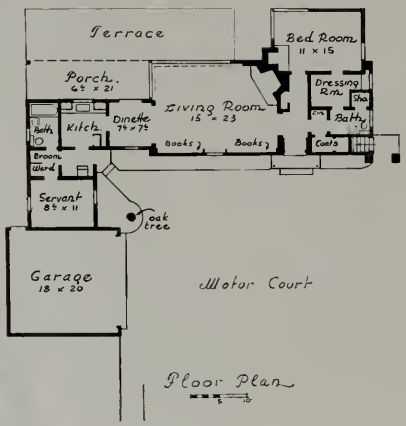
MAIN READING ROOM, NORTH BERKELEY LIBRARY

JAMES W. PLACHEK, ARCHITECT



HOUSE FOR ROLAND MAXWELL, PASADENA, CALIFORNIA

CURTIS CHAMBERS, ARCHITECT



This well-planned small residence in the early California tradition was designed by Architect Curtis Chambers for Roland Maxwell in Pasadena. Located on Linda Vista Avenue, the house affords a particularly fine view of the mountains to the Northeast.

In the simple layout, every room is exposed and an enclosed motor court adds to the feeling of spaciousness. The house is of wood frame and stucco exterior, with cedar shingle roof. The equipment is of the highest standards and includes a gas warm air furnace, range and water heater.

NUDISM AND MODERN ARCHITECTURE

THE TWO SHOULD GO HAND IN HAND

by Leicester B. Holland, F. A. I. A.

IN RECENT weeks I have been looking through a considerable number of the foreign architectural journals in the Library of Congress and I have been noticing particularly the French interiors—mostly exhibited at various salons I presume, for there seem to be no corresponding exteriors—and the German exteriors, mostly of tremendous housing operations—the interiors of which seem to pass unnoticed.

Many of the pictures are photographs of actually constructed work, some are merely architects' drawings, but in one case and the other I have been struck by a curious phenomenon, there are no scale figures. Now scale figures have always been one of my hobbies. In college I conceived the greatest admiration for Viollet-le-duc—which incidentally has never died—and as I look back, I am inclined to think that it was his scale figures that first attracted me to the dictionary. Nor should I be surprised if scale figures did not have a good deal to do with my deciding that Wilson Eyre was the first architect for whom I wished to work. I am sure that I have put scale figures in far more rough sketches than there was any warrant for—even being tempted on full size detail sheets to waste what once would have been considered valuable time.

So I was struck, perhaps more than another would have been, by the absence of scale figures in modern architecture, and as I looked at picture after picture I began to wonder what sort of figure could be introduced in connection with the exteriors and interiors I was examining.

PHOTOGRAPH BY JUANNINI

Obviously an ordinary individual in ordinary clothes would not do. The very chic and bizarre French boudoirs and offices de grande luxe simply would not tolerate a fashionably dressed woman—such as I knew—or a business man, even in silk hat and silk pyjamas. After much concentrated consideration I came to the conclusion that the only thing for a French interior was one of the curious mannekins to be seen in the windows of ladies' dress shops these days, a sort of a fourth dimensional human being projected in three dimensions upon a warped surface. And for the German exteriors the only figure that seemed suitable was a shaved headed man in very freshly washed and stiffly starched overalls.

Editor's Note—Reprinted from The Federal Architect, Washington, D. C.

The strangeness of these conclusions has lead me to consider the importance of the scale figure, and I have come back more strongly than ever to a feeling I have had since the days when I read Viollet, that the scale figure is, or should be, the keynote of any architectural design. For architecture, aside from its strictly utilitarian function as a complicated tool to keep out the rain and the cold, is above all a picturesque setting for humanity. It plays a major role in the self aggrandizement which is necessary for man to preserve his status as a human being. Man starts out by being just one of many animals and in many respects a very inferior one. He is not very swift, he is not very strong, his fur is short and ragged, his coloring quite lacking in distinction. His form is aptly described by the name the wolves gave to Kipling's wild boy, Mowgli, the frog. But one thing he has which all other animals lack, self-consciousness; and with it a relentless determination to be and show himself superior to all of them.

To the Indian the grizzly is the king of beasts, the eagle king of birds; by cunning he kills them both; he takes the claws of one, the feathers of the other, to show his superiority — no other animal would think of such a thing—and then he adds little spots of red and bright beads and shells and dyed porcupine quills and puts them all upon himself, so that he becomes a very gay and striking object, somewhat absurd perhaps, but very different from any other animal, and in his own eyes far superior. That feeling of superiority is the great gift the gods have given to men.

Life is apparently a boon to all animals, since all struggle to maintain it, but to any of us the life of an animal would seem duller than death. Eating, sleeping, mating, the physical pleasure of exercise, the feeling of triumph in combat perhaps, these are all the pleasures of animal life, and even though human ingenuity refine them to the n'th degree, they alone would never satisfy. The joy of life to man is in achievement, in feeling that he has done something no one did before, that he has made or is going to make life better for himself or for others than it has been; and it is the pride in achievement, not the achievement itself, that alone makes human life worth living. Glory, honor, industry, self-sacrifice, devotion, all spring from this. They are of course all highly artificial sentiments, and perhaps like the red-skin's panoply, somewhat absurd, but humanity has nothing greater.

Now when man has abandoned his body to magnify himself what does he do next? He adorns his dwelling. Birds and ants build nests, beavers build quite respectable shelters for themselves, but there they stop. Man doesn't. He isn't satisfied with a mere protection from the elements, but he has to decorate it. He paints it, carves his woodwork, sets up porches and colonnades. His plans and structures become constantly more elaborate, partly for convenience and comfort it is true, but more from the urge of the three B's—Bigger, Better, more Beautiful — so that he can be proud of his achievement. When he has made a palace he becomes a lord, when he has made a city he becomes civilized, and if at any time he loses the feeling that he is improving things he begins to revert to savagery. All this is artificial; if it were not there would be in it no sense of triumph over nature; from the spiritual point of view the absurdity that may enter in, matters not at all. Architecture and clothes, in their contempt for nature, are the glories of civilization.

Some years ago I happened on a curious little book called "Narcissus, an Anatomy of Clothes," by an Englishman, Gerald Heard. In it the author advanced the thesis that in all times there is a close sympathy between clothes and decorative architectural forms. He relates the high, stepped headdress or mitre of the Persians to the ziggourat of Mesopotamia; the chaste dignity of Greek drapery to the delicate fluting of the column; the more complicated forms and rich mosaics of the Byzantine, to the gold and purple of their broader oriental robes. The high peaked headdress of the women and long pointed shoes in the 14th century are linked to the flamboyant Gothic, and he points out that the broad hat of Henry VIII and the duck-bill sabbatons of the period have just the outline of the four centered arch. In fact Henry's

whole proportions are much akin to those of a Tudor window.

It is curious to note the seeming disparity between some of these sartorial monstrosities and the culture of the time. Of all the costumes man has worn I can think of none more absurd than that of Shakespeare—skin tight hose to the thigh, bulging most unanatomically into puffed slashed trunks, small waisted jerkin stiff with ornament, ridiculous short cape with flaring collar, and elaborately starched ruff. And the Elizabethan architecture is almost as preposterous. Yet Shakespeare was the greatest poet and Elizabeth's the greatest age that England has known. Actually there is no conflict, for it was the cock-sure vanity and self-conceit shown in the fantastic clothes that made the golden age; and as long as Englishmen can with perfect composure appear in evening coat and starched white shirt and kilts, Britons never shall be slaves.

Do the analogies hold for modern times? Development, at least so far as men's clothes go, practically stopped with the Directoire. Architecture, Heard says, is always a step ahead of costume. Has architecture ceased to develop since the first quarter of the 19th century? At least since that time we have had little consistent developments or very characteristic fashions. The cities have grown with miles of well regimented houses, like sweatshop shipments of ready made business suits, modified by a feverish eclecticism aping a hundred styles of the past, and that may be paralleled by the women's styles that change incredibly in a decade.

Yes, I think the scale-figure is the key to good architectural design. If the design makes a discord with the man you choose, then the design is bad, and conversely if an actual man looks out of place in an actual building, then he has no business there. Perhaps that is the reason hospitals are so stringent in their regulations about visitors and why visitors feel so nervous in them. The nurses fit beautifully, so do the internes in their fresh white ducks. The patients scarcely count, covered up with sheets, but the visitors are awful; usually they look like something that should be dipped in carbolic acid and cast down the drain as quickly as possible.

It seems at last that we may be emerging from the uncertainties and conventions of Victorian architecture, and modernism is all the rage abroad and somewhat the rage here too. But there are those who say it is a fad, that it will quickly pass or is already passing. If it is a real abiding movement it should foreshadow a change in costume, for it is certain that no modern costume accords with it. What should that costume be? The fundamental characteristics of modern architecture are mass production, rigid functionalism without extraneous ornaments, and simple geometrical forms. The most fitting costumes would seem to be something on the lines of the Ammish men, the Pennsylvania Dutch, a uniform consisting of broad flat hat, straight square box coat and tubular trousers. It is quite proper that no collar should be worn for that is in no way functional, and I am sure Le Corbusier would side with the religious faction that condemns buttons as vain ornament and pins its faith on the hook and eye. Only of course, the uniform should not be black, but white, or perhaps white on one side and black on the other. But uniforms unfortunately are not long popular with mankind, they may exalt the clan but they obliterate the individual; it takes a religious fervor to hold to them. I remember seeing a letter of Paul Cret's at the end of the late war in which he spoke of looking forward to the day when he could "ornate his head with a derby." And modernism is by no means new. Le Corbusier reached this country at least ten years ago. Yet nowhere does there seem the slightest tendency toward a modified Ammish costume. Either the costume must be wrong or the architectural style an aberrant sport.

There is, however, a novel costume which has recently attained considerable popularity abroad, especially in Germany, where modernistic architecture has reached its greatest development. It is that of the Nudists. And the Nudist costume has much in common with modern architecture; it is functional, it eschews all ornament, it revels in sunlight. It is not very

geometrical, I must admit, but it has the great advantage over any uniform that it is markedly individualistic. The variations, it is true, are not the results of choice, and are quite beyond personal control. But the same seems true of many of the variations in modern architecture. All things considered, I am convinced that Nudism and modern architecture do or should go hand in hand, and that a marked development of Nudism must be the sign that architecture has really and seriously gone modern.

There are difficulties, however. The Nudist costume is not universally practical. In summer weather it may be fine, indoor it may be tolerable the whole year round, but on the streets in winter it would never do. And our social organization requires certain marks of distinction between the individuals. How would one know a policeman from a bootlegger? The policeman has to wear a badge even though he has nothing to pin it on. I heard of a man who had dinner with a Nudist family in Germany. The whole household were properly nude, of course, only the butler who waited on the table wore white gloves. Such little unavoidable artificialities would break down the whole system in time.

And there is another objection, far more fundamental. Nudism in its philosophy is the negation of ornament, the negation of artificiality, and therefore, I believe, the negation of man's pride in his humanity as distinguished from simple animal nature. It is the negation of civilization. Our civilization is far from perfect I admit, and probably it always will be so, but as long as we believe that we are bettering it, our souls are alive. When we decide to give up all civilization utterly, our souls will swiftly die. Nudism, philosophic utilitarianism, contempt for frills and furbelows, even though they deny all known anatomy, all laws of gravity, form the straight path to barbarism and beyond, to savagery and below, for there is no savage that does not deck himself with some quite useless ornament.

All this, I believe, holds likewise true for architecture.

FINISHING ARCHITECTURAL CONCRETE

AFTER forms are removed from monolithic concrete walls, various steps are necessary to finish the concrete to secure the attractive appearance desired. Tie rod holes must be filled, any honeycomb spots corrected, fins removed and the entire surface cleaned. On smooth surfaces some architects prefer to have all air bubbles and pin holes filled, others prefer not to fill them as they lend interest and texture to the surface. Many of the suggestions given herein are confined to concrete which is not to be painted. Obviously, where walls are to be painted it is not so essential to match patching mortar to the surrounding wall nor is such careful cleaning necessary. Cement paint fills most of the pin holes and many air bubbles so that other methods of filling these holes will not be necessary.

Tie rods should be pulled toward the inside face to avoid spalling the concrete on the exposed surface. The holes should then be filled solid with mortar using a grease gun of the plunger type such as those used on automobile transmissions. The flexible hose on the gun should be replaced by a short pipe for this purpose. Filling should be done from the inside of the wall. A piece of burlap or canvas should be held over the hole on the outside face and when the hole is completely filled the excess mortar should be wiped off with this cloth. No other finishing is necessary.

Cones or other devices leaving a larger hole than the tie itself are sometimes used though not as desirable as the straight pencil rod and button. The holes left by the cones should be patched in the manner described for a honey-

PUBLIC LIBRARY
PERIODICAL DEPT.

combed spot except that it will not be necessary to cut out any concrete.

If concrete of good workability is used and it is well puddled during placing, there should be no honeycomb. Where honeycomb does occur, the concrete should be removed until solid concrete is revealed and to a depth of at least one inch. Edges should be cut perpendicular to the wall surface to avoid feathered edges in the patch. An area of concrete extending several inches beyond the hole should be saturated with water.

A grout of equal parts cement and sand, with sufficient water to produce a brushing consistency, should then be well brushed into the surface to be patched. This should be followed immediately by the patching mortar. The mortar should be of fairly stiff consistency and it may be necessary to place it in the hole in several well compacted layers to prevent sagging. A wood float may be used for compacting the mortar. The patch should be left slightly higher than the surrounding surface. After an hour or two, depending on weather conditions, it should be finished flush with the surface of the wall, using the wood float. If a smoother finish is necessary, the surface may be wiped with cheese cloth or similar soft material. A steel trowel should not be used for finishing, as it produces a smooth spot that will show up in contrast with the surrounding surface and will even show through paint. If a very smooth finish is necessary, it is better to allow the patch to harden and then grind the surface with about a No. 80 stone using plenty of water. Care must be taken, however, not to stain the concrete below the patch.

When unlined forms are used, the board marks should be carried across the patch. This can be done by striking off the surface with a straight-edge spanning the patch and held parallel to the direction of the form marks. When screeding the patch, the straight-edge should be lifted at each joint between form boards. The straight-edge should then be replaced and the operation repeated. Thus the patch will have an irregular surface corresponding to the irregularity of the wall and traces corresponding to the joint lines will be made.

Mortar For Patching

Mortar for patching should be made of the same materials and in the same proportions as used for the concrete, except that the coarse aggregate should be omitted. A somewhat richer mix, about 1 part cement to 1½ to 2 parts sand will be necessary for plugging tie holes and it is advisable to use a sand passing a No. 14 screen. The sand must be clean and free of materials which cause discoloration. No more water than necessary for proper placing should be used. The mortar should be mixed thoroughly and then allowed to stand for an hour or more before using, stirring it occasionally if necessary to keep it from stiffening. It should be thoroughly remixed before using, but without adding water.

Mortar patches when made of the same cement and sand as the concrete usually appear darker than the concrete. To overcome this tendency, white cement should be substituted for a part of the grey cement to give patches that will match the wall. The proper proportions are best determined by making a few samples, allowing them to dry before comparing them with the concrete. The proportion of white cement will usually vary from 10 to 30 per cent of the total cement.

Curing

Mortar patches should be kept moist for several days. This is not always convenient and for that reason is often neglected. It is particularly important to cure the patches made in repairing honeycomb spots, as the mortar will not bond properly if it dries prematurely. Tarpaulins can often be hung over the walls to prevent them from drying too rapidly. In some cases wet burlap can be held in place over patches by means of wood props.

Cleaning Walls

Fins of mortar projecting at form joints or between form boards may be knocked off with an ordinary hammer or with a bush hammer. In using a bush hammer, however, care is required

not to remove the mortar covering the aggregate in the face of the wall. Rough spots, stains and hardened mortar or grout can be removed by scouring with steel wool or with fine steel brushes. Steel wool is especially useful in removing deposits of shellac or oil. Care should be taken to brush steel wool shavings from sills and other ledges as they will quickly rust and stain the concrete.

Streaks caused by leakage from the lift of concrete above can often be removed by use of a fine hone. A hone used for sharpening tools will be satisfactory. Plenty of water should be used and rubbing should be sufficient only to remove the streaks without working up a lather of mortar or changing the texture of the concrete.

Surfaces of concrete can be cleaned by scrubbing with soap and water, using stiff bristle brushes. The soap should be rinsed off to produce a uniform surface. Usually, however, the surfaces are best cleaned and given a more uniform appearance by giving the following treatment: Mix one part cement and one part fine sand with sufficient water to give a grout having the consistency of thick paint. Wet the surface and apply the grout with stiff bristle brushes uniformly over the entire surface, completely filling air bubbles and holes. When the cement has partially set, remove the grout by scraping it off with a trowel. The exact time when this should be done will vary with weather conditions and must be determined by trial. If the grout is allowed to remain on the wall too long, it will harden and will be difficult to remove. When the surface is thoroughly dry, rub it vigorously with burlap to completely remove any dried grout. There should be no visible film of grout remaining after this rubbing. The process removes slight discolorations and stains and gives a uniformly good appearance without the effect of a paint coating. In some cases where plywood is reused, the surface may be slightly darker than adjoining surfaces due to a slight fuzziness brought about by failure to sandpaper the plywood between uses. This condition may be prevented by sandpapering the plywood after each use.

GOLDEN GATE BRIDGE

(Concluded from Page 29)

dedication. In addition, Cavalcades are planned from Cheyenne, Wyoming, Salt Lake and other points in the east.

Another highlight of the Fiesta will be three nights of pageantry at Crissy Field with more than 3,000 persons in the cast and a symphony orchestra of 100 pieces.

Sports, dancing, parades, fireworks, a children's festival and a fashion show, a Mardi Gras night for the enlisted men and formal banqueting for distinguished visitors, wandering groups of minstrels to give a festival air to the streets, decorated with redwood bark and evergreens and California poppies.

A feature of the ceremonies will be a pedestrian day May 27 across the bridge, the day before vehicular traffic is started.

Golden Gate Bridge two years ago. Base of the San Francisco Pier beginning to show its massive proportions

DRAWING OF ST. PETER'S MADE BY MR. PINKHAM IN 1892

WALTER E. PINKHAM
1870 - 1937

WALTER E. PINKHAM, architect, of San Francisco, died January 20, 1937. Mr. Pinkham's career is of especial interest in that it began at the moment when the great architectural revival in America was just getting under way, and so brings that whole movement very close before us.

When Walter Pinkham was starting out as a young student of architecture, Page Brown was just organizing his office in San Francisco, importing some of the best talent of the United States, among them Willis Polk, Bernard Maybeck, and J. C. Schweinfurth. At the same time Albert Pissis was becoming well established and Ernest Coxhead, a young English architect, was introducing his personal version of the architecture of his native land. Under the influence of this brilliant coterie, architecture made great progress here in San Francisco. This was more or less typical of the condition that held throughout America, and although San Francisco felt the stimulus of this revival a little later than the great Eastern centers, it quickly fell in line under the leadership of this group. This awakening came just as Walter Pinkham was beginning his work as apprentice; just in time to quicken his spirit and make him a devotee of the new ideas.

The greatest enthusiasm and the most wholehearted devotion to any such movement is to be found among the younger men, especially among the younger draftsmen, and Walter, like many of his associates, was completely carried away with it. He never lost his great love for architecture and although his enthusiasm and devotion to his calling were pretty well concealed under a quiet dry personality, yet they remained strong enough to be his ruling motive and inspiration up to the day of his death.

I met Walter Pinkham first at the studio and home of Bernard Maybeck, where about a half dozen young students of architecture used to gather to receive help and advice from Mr. Maybeck. This was probably the first atelier for draftsmen in the San Francisco region, and Pinkham was one of the first to enroll.

The group included Julia Morgan, Herbert Van Vleck, Walter E. Pinkham, Edward H. Bennett, Arthur Brown, Jr., Lewis Hobart, Loring Rixford, Harvey Corbett and John Bakewell, Jr., Pinkham, Van Vleck, Bennett and Hobart were employed in architects' offices and Pinkham was already a real draftsman of several years' experience. He and Herbert Van Vleck were the

star disciples of the aggregation. Brown, Corbett, Rixford and myself were students in the University, and to us there was a great deal of glamour attached to the persons of these real professionals, especially of Pinkham and Van Vleck who to us seemed very far advanced.

An idea may be obtained of the meticulous and almost microscopic quality of Pinkham's draftsmanship at this time from an amusing little anecdote. Employed by Henry Schultz, a prominent architect of that day, to make a perspective, Pinkham asked the privilege of signing the drawing. Schultz, perhaps not unnaturally, was not willing, but Walter insisted that his name should appear if he was to make the drawing. This would have seemed to end the matter, but not at all. Walter made the drawing and it was accepted. A long time after, Mr. Schultz, much to his amusement, made the discovery that all the shadows, all the clouds and in fact nearly all the lines in the drawing were microscopic signatures of Walter Pinkham's name.

Most of this group continued their association at the Ecole des Beaux Arts. Walter Pinkham was one of the two exceptions and as a consequence for a time we all lost track of him. He left San Francisco, tried his luck as a practicing architect in the Hawaiian Islands for a time and finally entered the office of the Supervising Architect of the Treasury in Washington.

When the rest of us were starting in to learn the rudiments of office practice and something of the technique of working drawings, Walter was a real authority on the subject. He knew exactly how each detail should be made and how drawings should be gotten out, and his experience was so broad that it covered every class of building and every kind of work.

When Lewis Hobart came back to San Francisco after the great fire and earthquake, he brought Pinkham out with him, and from that time on he remained here. When Bakewell & Brown won the City Hall Competition, he was put in charge of the preparation of the drawings for that building as head draftsman. His wide experience and his knowledge of the best standard practice were of inestimable value. It is hard to realize what it means to an organization to have someone in charge who knows how to do everything and how to do it right. Afterwards he was to have charge of the drawings for St. Joseph's Hospital for us.

One of the last important pieces of work on which he was employed was the San Francisco War Memorial. Arthur Brown, Jr., arranged to have him put in charge of the designs and working drawings of the Veterans' Building, as an assistant to Alexander Wagstaff, who was in charge of the whole War Memorial scheme as Chief Draftsman.

I think that it was his love for drawing that made him choose to continue his work at the drawing board throughout his life. By doing this he was able to have a very important part in the creation of a great number of buildings, whereas had he joined the ranks of practicing architects he would have had to forego any work other than his own, and even in his own work his time would have been diverted from the actual making of drawings, something he could not bring himself to give up. If all of the drawings that he himself made could be tabulated the total of them would be astounding.

Walter Pinkham always retained this love for draftsmanship, this enthusiasm for the work of getting out drawings. His devotion and loyalty to the drawings he was making and even of those that were being made under his direction was extraordinary. Nothing was permitted to come before them. No imperfection in them was tolerated. Each drawing must be technically perfect. The same thing was true of the details. There must be nothing vague or undecided about these. Each one must represent the best way to do that particular thing. If perchance the detail was concerned with some new process, or, what was very rare, with something outside his experience, he called in the best expert advice, found out how to do that particular thing himself as well as it could be done, and then with great skill presented this in the shape of a drawing.

No more inspiring example could be found for a young student of architecture than that of this master of his art, Walter Pinkham.

John Bakewell, Jr.

CONCRETE HOME HAS PASSED EXPERIMENTAL STAGE

"GENTLEMEN, we are making history!"

With these words, William G. Kaiser, manager of the Cement Products Bureau of the Portland Cement Association, opened the joint session of the National Concrete Masonry Association and the National Conference of Concrete Contractors in Chicago January 19.

"This is the largest aggregation of concrete men ever assembled in one body in my recollection, and I've been connected with the industry for over 20 years," enthusiastically said Mr. Kaiser. From half of the United States and from Canada and England 1,500 concrete contractors, builders, and products men packed the convention and exposition halls.

As a parallel climax, concrete contractors from all the nation convening in their first conference decided by popular vote that an association of concrete contractors be formed. As a result an organizing committee was appointed to work out the plans for creating the new association. Bert Carey of Bert Carey and Co., Forest Park, Illinois, was named the national chairman of the committee.

Twenty papers presented at the two series of meetings during the three days covered the fields of concrete manufacture and placement from every angle. That each talk was as important to the industry as the next was evidenced by the keen discussions that followed.

Home Building

For the home building industry represented at the joint session, Bernard L. Johnson, editor of the American Builder, sketched a picture of the future. He said in part: "A half million homes will be built in 1937—the residence building industry is on the verge of the greatest boom in American history—there is a definite shortage of two and a quarter million family units to be filled within the next ten years.

"In the early 1920's conditions were very similar to today. At that time residential construction jumped from a low of 250,000 units in 1920 to approximately 700,000 in 1922. This amazing increase was the result of a period of non-building during the war. The need for homes today is even greater than in 1920. The absolute dearth of building in the depression years not only cancelled any overbuilding, but has built up a deficiency that must immediately be remedied."

Theodore E. Damm, chief of the F. H. A. industries section, elucidated on the subject of housing, stressing that all indications point toward the greatest program of small home building in the history of the nation.

"Builders, in concentrating on high price homes," Damm said, "have entirely neglected the low cost field in which approximately 70 per cent of the market lies. Research shows that never before has there been so much money in savings accounts, or so much capital available on long term, low rate loans—indication that only good salesmanship and a little push is needed to start home building on a really large scale."

Damm emphasized that the F. H. A. is ready and waiting to cooperate in all possible ways with industry in starting the ball rolling.

Monolithic Concrete Houses

In technical discussions, houses also took the spotlight with details of modern concrete wall and floor construction coming under the microscope. At the contractor's meeting, Robert Schwartz of the Gambsky Company, Menasha, Wisconsin, revealed cost and construction data gathered from the actual job of building the monolithic concrete Purdue Research Foundation house at Lafayette, Indiana. In summing up the conclusions drawn from the project, Schwartz said:

"Our experience has shown that reinforced concrete homes can come within a moderate price range and can be profitably built by the average contractor equipped with adequate equipment. The public is rapidly becoming concrete minded, as was evidenced by the thousands who visited our Purdue house, and is being convinced that the low cost house of today is the concrete house."

Charles Joern of William Joern and Sons, Chicago, gave the masonry manufacturers a detailed account of the Joern system of building and selling concrete houses in the LaGrange Park development in West Chicago. Commenting on his firm's system he said: "With concrete floors, we not only eliminated the fire hazard, thereby reducing the fire insurance rate, but we so strengthened our entire structure and eliminated sagging floors and the possibility of the presence of termites and vermin that this feature became one of our best selling points.

"By building concrete floors and concrete masonry walls, consequently giving the structures longer useful life than most ordinary types of construction could permit, loaning interests have expressed greater willingness to grant financial aid to us and the owner.

"I feel now as though all the ground work has been done, and I am absolutely confident that our concrete type houses will bring us as much business in the coming year as we can handle."

A closer scrutiny of concrete house construction was made by Stanley G. Cutler, well known structural engineer of Chicago, who related, step by step, the methods he utilized in designing and building his own monolithic concrete house. The construction problems

he met and the exact manner in which he solved them were laid bare for examination.

Surveying the field of monolithic concrete house construction systems, A. L. Rehnquist of the Portland Cement Association explained and illustrated a selection of the outstanding methods being used in wall building.

Concrete Joist Floors

To complete the query into how concrete houses are built today, Harold B. Hemb of the Gorey & Hemb Construction Company, Evanston, Illinois, stressed the point that concrete floors eradicate all the troubles commonly experienced with many floors of conventional construction. And that the concrete joist has made practicable the all-concrete floor which achieved the purpose of reducing fire hazard in residences to a minimum. He went into a complete discussion of the details of building concrete joist floors.

M. E. Feddeler of the Ce-Mas-Co Floor Company, Chicago, projected the discussion of concrete floors into the industrial field in which his company specializes.

The most salient factor in successful construction of industrial concrete floors, he said, was a durable finish. He explained the various methods of construction his organization developed before arriving at the process used today in building concrete floor finishes that will withstand the hard punishment of industrial use.

The sessions on floors drew to a close the first national conference that has ever been held for concrete contractors.

Recent developments in block manufacture held the spotlight in discussions, with curing being the topic of the hour. Curing with steam under high pressure in all its aspects was described by J. C. Vosburgh of Chicago. The possibilities of this method of speeding up block production found competition in another means of rapid curing—electricity. J. Miller Smith of Detroit explained how a low voltage of alternating current passed through freshly made concrete caused heat to be created by the resistance of the moist mix, thus speeding up the curing process.

The need for volume control was expressed by William G. Kaiser, while M. W. Ferguson of Roanoke, Virginia, showed where the control of weight affected the profits.

Of immediate interest to concrete products men were the experience stories and discussions on the ways and means of selling concrete houses. To get down to serious selling and building, a good organization is needed. How to set up such an organization was outlined by John L. Strandberg of Kansas City, Missouri. W. D. M. Allan, director of promotion of the Portland Cement Association, told what his organization will do to help increase sales.

The convention was closed with a tentative decision to hold the 1938 National Concrete Masonry Association convention in Milwaukee, Wisconsin.

PAINTING STUCCO, CONCRETE AND BRICK

IN the survey, "Trends in Exterior Color Schemes," reported in a recent issue of the "Dutch Boy Quarterly," a very interesting and significant fact was uncovered.

It was found that in the case of more than 60% of the dwellings where stucco, concrete, brick or stone was used either alone or in combination with some other material in the body construction, these materials were painted.

Although this particular survey was limited both in size and scope, this figure would, in all probability, be borne out if a similar survey were conducted on a larger scale in any other section of the country. The fact is that more and more architects and builders today are beginning to see not only the aesthetic advantage of paint on exterior stucco, concrete and brick, but also its desirability, and even necessity, from a practical standpoint.

As far as appearance is concerned, paint provides color upon which so much of the attractiveness and effectiveness of modern architectural treatments depend. In addition, by filling the exposed pores of rough-surface facing materials, it provides a relatively smooth and even coating to which dust, dirt and soot will not readily adhere.

But aside from improved appearance, there is a practical reason why stucco, concrete and brick should be painted. Paint, properly mixed and applied, forms a durable, impervious coating preventing the entrance of moisture from the outside and its penetration to the interior of the material painted.

Ordinary stucco, concrete and brick are very porous and moisture-absorbent — especially brick. A single brick placed in water for several hours will absorb nearly one-fifth its weight in water.

It should be quite apparent that materials of this type, during a heavy rain or a period of high humidity, will have a tendency to absorb large quantities of water. Of course, if warm and sunny and therefore dry weather follows, this moisture will be drawn to the surface and evaporate. If the damp spell continues for any length of time, however, the moisture may travel inward bringing on various undesirable conditions.

In cold weather, the absorbed moisture frequently freezes and causes damage to the surface in the form of cracking, if stucco or concrete, and chipping, if brick. Moreover, cases have been noted where the imprisoned water was the only apparent explanation for a damp and hard-to-heat interior.

The proper painting of a brick, stucco or concrete surface presents no special problem. It is well, however, to bear three things in mind.

First, the material to be painted should be as dry and moisture-free as it is possible to get it. To insure this, a

few simple precautions are all that is necessary. At least three or four days or even a week of clear, dry weather should precede the application of paint. Even in clear weather, if the air is exceptionally humid, it is a good plan to wait until dryer conditions prevail. Painting should not be started until reasonably late in the morning and should not be continued too late in the evening.

In the case of stucco and concrete, the surfaces should be allowed to age before the priming coat is applied. Six months' exposure to the weather is usually considered sufficient. If painted within that time, the surface should be artificially aged by washing with a solution consisting of 2 pounds of zinc sulphate in a gallon of water or with ordinary carbonic acid water.

The second requirement in painting brick, stucco or concrete is to make sure that the porosity of the surface is entirely satisfied before applying the finish coat of paint. If this precaution is disregarded, premature chalking or spotting due to an uneven absorption of the vehicle from the finish coat may follow.

The best way to insure that surface suction has been stopped is through the use of the proper number of paint coats—that is, three coats on new work; two coats, if the surface is being repainted. Occasionally, it is true, satisfactory paint jobs have been done using only two coats on a new surface and one coat on an old. However, variations in the absorption of stucco and concrete, due to differing mixing formulas are often encountered. Surfaces to be repainted are sometimes more porous than previous weathering would lead one to expect. It is always safer and cheaper in the end, therefore, to follow tested painting practice.

The third requirement in the proper painting of stucco, concrete and brick is to use the right paint—one that not only seals the surface and keeps out dampness, but one that also has the solidity and strength necessary to resist weather attacks and the elasticity to contract and expand with changing temperature and humidity conditions.

On the basis of performance, there is no doubt but that pure white-lead and lead mixing oil is the proper and ideal paint for the purpose. As a primer, mixed on the basis of 100 pounds of white-lead and 4 to 5 gallons of lead mixing oil, it fills up the innumerable pores on the surface, sealing it tightly, and yet leaves sufficient oil in the film to bind the pigment particles together and form a hard, solid foundation for succeeding coats. Three to four gallons of lead mixing oil and 100 pounds of white-lead make an excellent body and finishing coat paint. Used as the latter, it dries to a handsome and durable low-gloss finish which does not crack but wears down gradually and smoothly, leaving a perfect repaint surface.

BRIDGE DESIGN COMPETITION

As a continuation of its program of encouraging improvement in the aesthetics of steel bridge design, the American Institute of Steel Construction announces its ninth annual bridge design competition, open to bona fide registered students of structural engineering and architecture in recognized technical schools of the United States and its possessions, and offers three cash prizes of $150, $100 and $50 respectively for the designs placed first, second and third. Certificates, signed by the jury of award and the officers of the Institute, will be awarded to the prize winners and to those whose designs are given honorable mention.

The subject of the competitive design is a steel highway bridge.

The bridge carries a highway in a straight line over a stream 300 feet wide from bank to bank.

A four-lane highway, 40 feet between curbs with one 5-foot sidewalk, is to be carried across a navigable stream 300 feet wide, connecting a parkway on the highland to the south with a boulevard on the plateau to the north.

Suitable lighting is to be provided for the type of traffic carried.

The required navigation clearance at the center of the stream is 150 feet horizontal and 70 feet vertical (with the necessity of maintaining this clearance prism during construction). There is also a requirement that no piers be built in the stream.

On the north river bank there is a double track railroad, occupying a right-of-way width of 50 feet, within which no piers may be constructed.

Ample funds are available with which to build an efficient structure of good appearance, but no money is available for expensive decoration or masonry.

The superstructure must be of steel throughout and the abutments and piers of stone-faced masonry.

The drawing must be a line drawing in black ink only. The use of color is prohibited but shadows may be indicated in black ink or a monotone wash. Only one drawing is to be submitted by each student.

Required for the Presentation:

A general elevation at a scale of 1/16 in. to the foot.

A perspective sketch from a point on the north bank, from which a line of sight to the center of the main span makes an angle of 45 degrees with the longitudinal axis of the bridge.

A cross section of the main span and a cross-section at a main support, both at a scale of 1/8 in. to the foot.

Elevations and sections must be clearly shown for the purpose of comparison.

Attention of the students is called to the fact that any drawing rendered in such a manner as to obscure the legibility of elevation, plan or section is subject to disqualification.

The drawing shall be presented on unmounted drawing paper size 30 in. x 42 in., which shall include a half inch white margin on all sides.

The drawing shall have in ink in printed letters on a light background in the lower right hand corner the name of the student and his school; also the subject of the competition; the space used for this purpose must not exceed 2 in. x 5 in. The seal of the school may be used if included within these dimensions but no other writing will be permitted.

The supervisors of the competitors are required to forward all drawings to the office of the Institute following the exercise. A list of the competitors alphabetically arranged, headed by subject of program, should be enclosed with each shipment of drawings.

Drawings will be disqualified for departure from the set problem in the development of the study and for insufficiency of indication.

Awards may be sub-divided or withheld at the discretion of the jury.

Drawings must be received at the executive offices of the American Institute of Steel Construction, 200 Madison Avenue, New York City, not later than April 12, 1937.

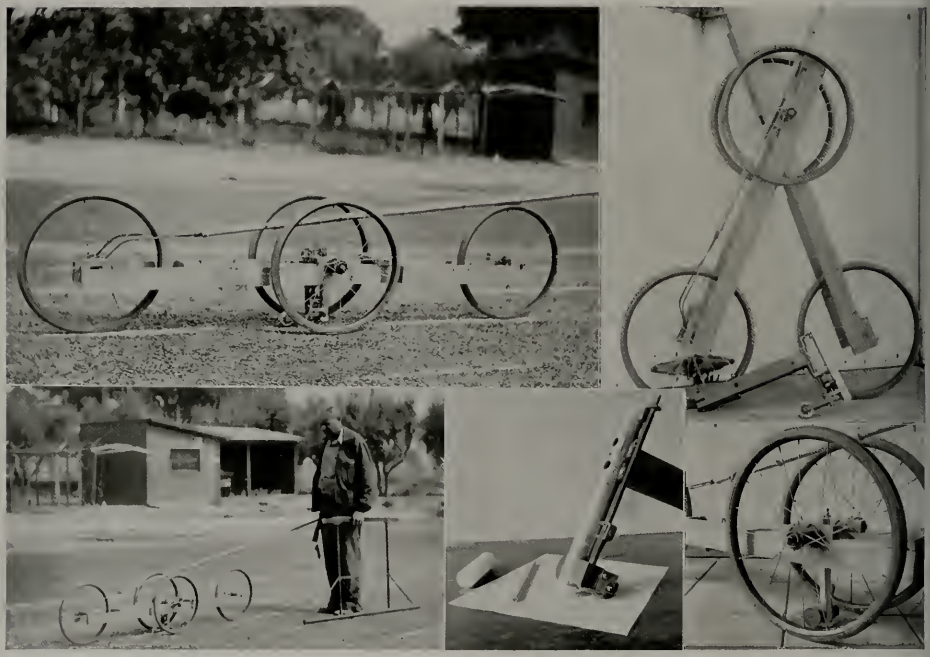
NEW MARKING DEVICE

Asphalt concrete pavement requires close and accurate straight-edging during construction in order to find and eliminate all bumps while the material is still in a workable condition.

There has recently been constructed a device called a "bumpograph" which has proven of considerable value in finding the high spots in this type of pavement, according to California State Highway officials.

The device consists essentially of a wooden frame hinged in the middle and supported by a bicycle wheel at each end, with two wheels at the middle hinge. One end of the frame extends well beyond the middle, acting as the primary arm of a compound lever. No springs or weights are required and the weight of the machine has been reduced to about 30 lbs. as against about 80 lbs. for former devices. The hinge permits the machine to be folded so that it can be transported by auto.

Pictures of the device are shown below.



"Bumpograph" devised by E. L. Seitz consists of a wooden frame supported by a bicycle wheel at each end and two wheels at the middle hinge where marking device is located. At right, the machine folded for transportation. At bottom Mr. Seitz operating the machine and carrying straight edge. At right, close-ups of marking device showing feed screw for crayon and device in position. Courtesy California Highways and Public Works

BOOKS-DESIGN-ART-LANDSCAPE ENGINEERING REVIEWED

OLD HISTORIC CHURCHES OF AMERICA: By Edward F. Rines; The Macmillan Company, New York City, N. Y. Price: $6.00.

Old meeting houses, veteran churches of our early America that played more than an important part in shaping the destinies of the nation, are here in a book of rare charm and entertaining reading.

Superbly illustrated, and carrying a useable fund of information for architect, layman and student of American history, this book should have an equal appeal for the clergymen of the country.

* * *

ART AND SOCIETY: By Herbert Read; The Macmillan Company, New York City, N. Y. Price: $4.00.

The author of this fascinating book surveys the world's art as related to the cultures and societies from which it originates. Beginning with the prehistoric, and the primitive, thence through the position of art as related to the religions. The status of the artists during and since the Renaissance is followed by an analysis of their frustrations under economic conditions.

The fundamentals of art are next considered and the book closes with a chapter on the transitional state of art. The book is well illustrated with one hundred very fine plates forming a connected series.

* * *

HOUSES OF STONE: By Frazier Forman Peters; G. P. Putnam's Sons, New York City, N. Y. Price: $3.50.

According to the author, houses of field stone in America had become but museum pieces and were not seen as architectural achievements in the modern practice. Recently this type of dwelling has shown a very decided tendency to return to popularity in some sections of the United States. This present book deals with the house of native field stone and its possibilities as lasting, permanent houses of distinctive character and beauty. The planning is carefully worked out from the standpoints of good taste and practicability. This volumn should recommend itself to the American architect and should prove to him a constant source of delight and inspiration. The book is extremely well illustrated.

* * *

HOUSES IN AMERICA: By Ethel Fay Robinson, Thomas P. Robinson; The Viking Press, New York City, N. Y. Price: $3.00.

This book covers in a very thorough manner the subject of houses in the United States that are houses according to the dictates of good taste.

It has examples of historic landmarks—dwellings that stand out to this day as examples of exquisite simplicity and architectural balance. It portrays the modern house with a tradition. Written in a very informal style and not at all approaching the subject from a technical angle, the book is refreshing and loses none of its good common sense knowledge concerning houses. The illustrations are pencil drawings and they generously picture the text.

* * *

DESIGN IN FLOWER ARRANGEMENT: By John Taylor Arms, Dorothy Noyes Arms; The Macmillan Company, New York City, N. Y. Price: $2.75.

A very complete little book embracing a delightful subject. The text is well balanced and the plates, with their accompanying plans, make the book a valuable asset to the decorator (man or woman) interested in the art of table or room decoration where flowers are to be the central motif.

* * *

CHINESE INFLUENCE ON EUROPEAN GARDEN STRUCTURES: By Eleanor Von Erdberg; Harvard University Press, Cambridge, Massachusettts. Price: $5.00.

This book constitutes an accurate study of the origin and extent of Chinese influence as regards Seventeenth and Eighteenth Century garden design and structures in Europe. Here a difficult subject has been handled in good taste and with a thorough understanding of the subject. Clear-cut illustrations enhance the text and make it a volume fit for every architect and landscape architect.

* * *

ELECTRON TUBES IN INDUSTRY: By Keith Henney; McGraw-Hill Book Co., New York City, N. Y. Price: $5.00.

A particularly well arranged and authoritative handbook for technical engineers of electricity, and especially interesting for radio engineers. The volume discusses all phases of radio engineering, giving data on such subjects as electric and magnetic circuits, sound pictures and aircraft radio.

* * *

THE SCIENTIFIC BASIS OF ILLUMINATING ENGINEERING: By Parry Moon, M.I.T.; McGraw-Hill Book Co., New York City, N. Y. Price: $5.00.

This is one of the excellent electrical engineering texts and is a logical presentation of its title. It presents to the reader the fundamentals of radiation, illumination, vision and reference data. The volumne covers such developments as photoelectric cell; sodium lamps and high-pressure mercury lamps, as well as built-in lighting for interiors.

* * *

AIR CONDITIONING INSULATION: By Ralph Dalzell, James McKinney; The American Technical Society, Chicago, Illinois. Price: $2.50.

A worthwhile book on a subject of ever growing importance in American building today and in days to come. The book treats of the application and principles of insulation, heat losses and gains, fire prevention, sound vibration, termites and condensation in buildings

THE SUPERVISION OF CONSTRUCTION OPERATIONS: By W. W. Beach; Charles Scribner's Sons, New York City, N. Y. Price: $6.00.

A fine, clear and concise book dealing with a subject of great material interest to the architect and to the contractor. It is an up-to-date hand book, and while written particularly for the superintendent of construction, is, as before mentioned, or should be of very vital interest to the other members of the building professions and industries.

There are numerous charts, plates, and plans, as well as indices and appendices. The author has made use of examples of actual work which greatly enhances the value of the book as a real working tool.

HOW TO WELD TWENTY-NINE METALS

A comprehensive book, entitled "How to Weld 29 Metals," covering the procedure, conditions and materials for welding modern alloys, nas recently been published by the Westinghouse Electric and Manufacturing Company. Specific data for welding all types of joints with varying thicknesses of metal, such as electrode diameter, welding current, speeds, deposition, etc., are included. Prepared by Chas. H. Jennings, whose experience and exhaustive investigation into the joining of metals have eminently qualified him as an authority on the subject, this book should be of great value to welding operators in simplifying and improving the welding of present day metals and alloys. Copies of the book are available at 50 cents each from any Westinghouse Welding distributor or direct to department 5-N, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pennsylvania.

WAIL OF THE LONESOME PINE

Members of the learned professions are prone to feel that their troubles are more serious than those of other professions. Architects are not alone in this view. If one is to judge only by the income tax returns made by architects in the last five years, they certainly have their troubles.

My committee has made attempts to analyze the underlying reasons for the discontent and pessimism prevailing among architects, and especially the practice on the part of building contractors, specialty manufacturers and so-called "jerry builders," in their attempts to function without the architect. We have determined that this practice is, broadly speaking, confined to three kinds of work—industrial, remodeling and moderate and low-cost residences. Much of this work is done without the services of the architect.

In the industrial field, some contractors operate by hiring an architect or draftsman who has a license and pay a salary or a small fee, and in that way make the owner feel that he is being given complete service. These owners do not realize that they are shut out from the benefit of competition as well as the protection and other advantages that an owner receives through a professional adviser who is not interested from the profit motive.

The well-known fact has been confirmed by this committee that contractors in this field cannot compete with other contractors where an architect engaged by the owner is in control. Their figures are usually considerably too high.

We, as architects, are concerned with this practice on two points. First, architectural practice is a disinterested professional service without a profit motive. Second, when we invite contractors who operate in this field to tender proposals, we are aiding, if not abetting, those who are by their practice tearing down what the profession is building up.

We have already made progress and will continue to do so if architects will report the names and addresses of contractors, manufacturers and jobbers who furnish plans and specifications for any type of building operation and the names of any operators who build residences for sale without the services of registered architects.

The profession is also interested in the problem involving the practice of some corporations who operate their own building department. In most of these cases, a former architect who "could not make the grade" because of the depression, or a draftsman who has been able to secure a license to practice, acts as the architect for the corporation. His compensation is very much less than what he can earn in reasonably normal times and he is forced to occupy a position beneath his ideal. We know that some of these corporations allow ten per cent of their building costs and some do not know what their costs are. It is safe to say that in most, if not all cases, their costs of architectural services and contractor's costs are materially higher than if an independent architect handles their building operations in the orthodox way.

All of these matters are of vital importance to the profession and means should be devised to combat them. . . . —Howard J. White, Chairman, Committee on Architects Practice, in Bulletin of Michigan Society of Architects.

GEORGE C. WALKER

George C. Walker, president of the P. J. Walker Company, managers of construction, died February 28 at St. Vincent's Hospital in Los Angeles, after an illness of 10 days with an ailment of the heart.

Mr. Walker was born 58 years ago at Oakland. The firm of which he was head at the time of his death was founded by an older brother, P. J. Walker, and has operated continuously since in the Bay District. P. J. Walker died four years ago.

Measures Affecting Building Industry in California State Legislature

NEARLY 3000 bills were introduced in the California Legislature at the preliminary session and many of these directly or indirectly affect the construction industry. Among the bills relating to labor are the following:

AB-86-Heisinger; D-37, Labor and Capital—Amends Sections 3244 and 3245 of the Political Code to provide that 8 hours of labor constitutes a day's work and 5 days constitute a week's work except in the harvesting of agricultural products and the processing of perishable products. Provides that any contract for a greater number of hours than 8 hours labor in one day or for more than 5 days or 40 hours labor in one week shall be void at the option of the employee.

AB-578-Hornblower; R-23, Labor and Capital—Adds a new section to, and amends, Sections 9, 12, 19, 20, 30, 65 and 67 of the Workmen's Compensation Act.

Eliminates the 7-day waiting period and provides that if the period of disability is longer than 7 days, disability payments shall commence from the date of the injury causing such disability. In case of temporary and permanent disability, provides that the injured employee shall be entitled to permanent disability payment and adds in addition to any payments of compensation for temporary disability. Increases the death benefit from an injury causing death from 3 to 5 times average annual earnings and increases from $333.33 to $666.66 the minimum average annual earnings for computation purposes. Changes from $5000 to $7500 the maximum death benefit and eliminates from computation in such maximum the disability indemnity which at time of death has accrued and become payable.

Amends Section 19 of the act to provide that an injured employee shall be entitled to examine all medical records and reports in connection with his hospitalization or treatment. All such records and reports shall be delivered to the Commission upon demand.

Amends Section 20 to add that all awards of the Commission shall carry interest at the rate of 7% on all due and unpaid payments from the date of making of awards. Adds the provision that reasonable attorney's fees shall be added to awards for compensation.

Amends Section 30 to provide that upon default of payment of an award by an insurance carrier the Commission shall assess such award or any unpaid portion of it against the employer.

Amends Section 65 to change from 20 to 10 days the time during which application for rehearing may be made.

AB-827-Pelletier; D-44; Hawkins-D-62, Labor and Capital—Amends Section 510 of the Labor Code, changing from 8 to 6 hours of labor as constituting a day's work and adding a provision that 5 days shall constitute a week's work. Voids any contract for more than 6 hours daily labor or more than 5 days or 30 hours labor per week at the option of the employee. Also provides that any person working over 6 hours in one day or 30 hours in one week shall receive $1.50 per hour for such overtime.

Amends Section 551 of the Labor Code, changing from one to 2 days the amount of rest to which every employee is entitled in one week.

Amends Section 552 of the Labor Code to provide that no employer of labor shall work his employees more than 5 days in 7.

Amends Section 1810 of the Labor Code to provide that 6 hours labor constitutes a legal day's work and 5 day's work constitutes a legal week's work.

Adds a new chapter to the Labor Code that 7 hours of work per day and 5 days shall constitute a week's work in manufacturing, mechanical, mercantile establishments or professional offices. Overtime is $2.00 per hour.

This act becomes operative only if the U. S. Government enacts legislation of similar nature insofar as the hours of work and days per week are concerned.

AB-829-Pelletier; D-44 and Hawkins-D-62, Labor and Capital—Amends Section 3244 of the Political Code to change from 8 to 6 hours as constituting a day's work with 5 days constituting a week's work, except in agricultural firms. Provides the voiding of any contract for greater hours of work at the option of the employee. Provides $1.50 per hour for overtime.

Amends Section 3245 of the Political Code legalizing 6 hours per day and 5 days per week.

Amends Section 3246 of the Political Code changing from 12 to 6 hours per day and 5 days per week the work of street carmen.

Adds a new section to the Political Code providing 7 hours work per day and 5 days per week for manufacturing, mechanical or mercantile establishments or professional offices and establishing $2.00 per hour overtime.

Provides the act becomes operative only if, and when, the U. S. Government enacts similar legislation.

AB-1052-Sawallisch; D-10, Labor and Capital—Amends Section 1 of the prevailing Wage Law to add hourly wages to the present requirement that the prevailing rate per diem of wages be ascertained. Adds working sub-contractors and piece-workers to those covered by the terms of the law. Adds to the term "Public Work" the fabrication or assembling of materials in the shop when said materials are of unique or special design. Provides that when public work is fabricated or assembled in any factory or plant away from the place where the article is to be finally installed in a public improvement, the final place of installation shall be deemed to be the location where all of the work incident to the improvement is to be performed.

SB-957-DeLap; R-17, Insurance—Amends Section 11 of Workmen's Compensation Act and rewords section relating to proceedings for the collection of death benefit or compensation.

SB-958-DeLap; R-17, Insurance—Amends Section 20 (d) of Workmen's Compensation Act relating to continuing jurisdiction of commission.

SB-830-Olson; D-38, Labor and Capital—Amends Workmen's Compensation Act to provide for the establishment of district offices. Defines "Employer" in more detail. Provides that compensation and death benefits shall be double the amount payable if the injured employee is a minor under 18 years of age employed in violation of the law.

Increases disability payments from 65% to 75% of the average weekly earnings in case of total disability and from 65% to 75% of weekly loss in wages during partial disability. Increases disability payments for a single injury causing temporary disability from 3 to 4 times average annual earnings. Increases weekly disability payments from 65% to 75%.

The Embarcadero Underpass at Palo Alto, California. The underpass carries the Embarcadero roadway beneath the tracks of the Southern Pacific railroad and the roadway of Alma Street, both of which are accommodated on the structure above. The top picture shows the wide subway for the Embarcadero lateral swinging down to the underpass with pedestrian ramps on either side. Inset is a view of the structure that carries railroad and Alma Street over the subway. Lower picture is the scene on dedication day.

ENGINEERING AT COLUMBIA UNIVERSITY

A five-year plan for expanding the physical facilities of the Columbia University School of Engineering at a cost of approximately $2,500,000 is outlined by Dean Joseph W. Barker in his annual report to President Nicholas Murray Butler.

The program, which calls for the construction of two new buildings, would involve no increase in the engineering student body, Dean Barker said, but would "care for the technical advances which have been made in the various fields of engineering in the past three decades." Provision for future growth would be made by constructing an additional building at some later date on a site at 120th Street and Broadway, already reserved by the trustees for engineering.

"To develop and to hold a great staff for the instruction of students, for fundamental research, and for scholarly exposition of engineering progress, we must offer proper and reasonable facilities for instruction and for research," Dean Barker explained. "It is in the physical plant that our school is weak, and we must now undertake the rebuilding and re-equipping of our facilities.

"Studies of the proper solution of our problem have now ripened into certain definite plans which utilize and coordinate our existing plant with new buildings. These additional facilities can be located on the existing Morningside Heights Campus and can be built one after the other as funds permit.

"The most pressing need is for laboratory space for the Electrical and Mechanical Engineering Departments. This can be satisfied by construction fronting on the Green between Havemeyer and University Halls and connected with the present Engineering Building. Moving the electrical and mechanical laboratories into this new space will permit expansion in the Engineering Building and in Havemeyer Hall of the space devoted to civil, chemical and industrial engineering and hence will offer immediate relief to those departments which are most definitely crowded.

"This first construction and the necessary equipment will involve nearly $1,500,000 and is urgently required to give relief from present conditions. The second phase of the program is a new building above part of these laboratories to house the offices and classrooms of the Departments of Electrical and Mechanical Engineering.

"The Department of Mechanical Engineering is now housed in the Pupin Laboratories and is occupying space needed by the Physics Department. This proposed building with its equipment will require nearly $1,000,000. Therefore it is evident that within the next five years we must raise nearly $2,500,000 of new funds to care for the pressing problems of our school.

"These plans involve no material expansion of the school or of the student body. They are absolutely necessary to care for the technical advances which have been made in the various fields of engineering in the past three decades. These plans will be submitted to your special committee, and construction of the first phase—the laboratory space—should be begun in time to dedicate it at the Seventy-fifth Anniversary of the founding of the school in October, 1939."

While he emphasized the importance to the school of adequate physical facilities, Dean Barker declared that the primary problem confronting the faculty is to impart "wisdom" to students rather than "knowledge." He reported that a special sub-committee of the Engineering Faculty has been designated to survey courses of instruction in pre-engineering and professional years, and that the Faculty's Committee on Instruction is "continually searching for men to be appointed to the staff who may become great teachers or great researchers or great scholars and seek to maintain a balance between these various types of staff members so that our faculty may retain its outstanding position."

"Quality of instruction is the most important item, yet we must search diligently for a rational balance of the other factors," Dean Barker asserted. "There seems at the present time to be an over-balance of emphasis on subject matter, 'knowledge' as contrasted with 'wisdom.' We are apparently concerned with 'how much' a student knows, not with 'how well he can use what he knows.'

"'Acquisition of knowledge' must be a continuous process, coexistent with life itself, but at some stage we must inculcate the principles and methods of discriminatory logic. If the division point between 'secondary' and 'higher' education has any justification whatever, it would seem to be that commencing there the mere accumulation of knowledge should be supplemented with distinctive training in discrimination.

"For those students who desire to enter higher education we set up certain requirements, largely based on determining how much knowledge, what character, and what purposes the prospective entrant has. Is it not time in the early college years that we parallel acquisition with discrimination?

"Yet we talk glibly of producing the learned man by continual exposure to acquiring more and more knowledge. We introduce into the college or technical school more and more survey or orientation courses, admirably designed as they are to give larger backgrounds in more fields of learning. Such courses must, of necessity, explore great fields of knowledge in a limited time.

"Hence the instruction must cover not only facts but also conclusions of fact and generalizations of opinion with small opportunity to differentiate carefully. These courses may be likened to airplane reconnaissance which sees mountains as mere humps and flattens out the foothills that must be climbed to reach them; that sees great rivers as silver threads and overlooks essential tributaries; that sees man in terms of the rectangular patchwork of his activities but scarcely recognizes him as an operator. Exploration is and should be a valuable pre-

cursor and directive for logical analysis, rigorous thought and careful synthesis; in other words, for disciminatory logic.

"If this analysis is correct what are we doing to teach our students the necessity for and ability to distinguish the difference between fact, conclusion of fact, and opinion? Is it not true that many students not only are unable to distinguish these differences but do not recognize the necessity for so doing? It seems as though many students substitute emotion and belief for careful thought and are ignorant of the mental processes that constitute discriminatory logic.

"Certainly for engineering students the instruction in every subject must add to their training in logic. They will be called upon as engineers to direct the control of powerful natural phenomena. These harnessed forces are potent for injury to life and property, even for our civilization, if the control is inadequate. For these reasons, the engineer's education should teach him to scrutinize apparent and asserted fact with the greatest care, and to test and retest conjectures before accepting them as conclusions.

"Instruction in methods of careful scrutiny and in discriminatory thinking cannot be started too early. It has all the weight of a freshman's past educational experience to overcome before it can start on its own foundation because this past educational experience has been devoted to the acquisition of knowledge.

"It then confronts the more difficult task of building up in the face of an ingrained, and in many cases an apparently instinctive, habit of reliance on authority, sufficient independence of mind and character to think and judge individually. We see lack of consideration for others' point of view, lack of discrimination, lack of courtesy and substitution of emotion and belief for calm, logical thought in some of the student agitation in the colleges. Haven't we pursued the false god of acquisition and neglected the true god of wisdom in our higher education?

"Fortunately, contact with the hard facts of pure and applied science reduced this tendency to emotion and belief in the latter years of professional study. It is true also that those students who have been fortunate enough in their survey courses to be assigned to great teachers, men of breadth of experience and balance of judgment, have learned by assimilation much discriminatory logic. Yet, survey courses in general are manned with younger instructors, often candidates for higher degrees, who lack the very breadth of experience and balance of judgment so necessary to keep the teacher an expositor and discussor and to prevent indoctrination or proselyting.

"What can be done about it from the viewpoint of engineering education? We must first seek a rational balance of the offerings in the three main fields of education for the prospective engineer—liberal arts, science and technology; second, seek a rational balance between factual acquisition and discriminating logic in each discipline; and last, but the most important, search out the great teachers and put them in charge of the basic instructions in all fields.

"It should be the greatest distinction in academic circles—and one most eagerly sought by teachers—to be entrusted with the stimulation (not the saturation) of the eager, inquiring minds of the youngest undergraduates. The members of the Committee on Instruction of our faculty are giving constant attention to these problems. They have appointed a special subcommittee to review the program of instruction in the pre-engineering and professional years."

NATIONAL HOME SHOW, CHICAGO

With leading associations in the building and allied industries cooperating and working for its success, the National House and Garden Exposition to be held at the Coliseum in Chicago next fall looms as an important contribution in the revival of residential construction and home modernization.

The Brick Manufacturers Association, Portland Cement Association, Illinois Master Plumbers Association, Central Division of the Architects Small House Service Bureau, National Warm Air Heating and Air Conditioning Association, Metal Lath Association, Illinois Chapter of American Society of Heating & Ventilating Engineers, Oil Heat Committee and Burning Oil Distributors Association have all indorsed the exhibition which is expected to reveal the newest in ideas in home building and equipment. Landscaping and gardening will also be stressed as inseparable features in residential beautification.

One department of the show will be devoted to educational exhibits, including interesting contrasts in the evolution of the kitchen, the bathroom and the heating of the home. Models will also be shown of miniature houses submitted by school children in a contest in which substantial prizes are offered. These models will be assembled in one exhibit to be known as "tiny town."

The central feature of the show will be a home of modern Colonial design which will occupy 2,400 square feet with its seven rooms and attached garage all on one floor. Designed by White and Weber, Chicago architects, the house will embody all the novelties of proven practicability in residential construction; combining durability, economy of maintenance, fuel savings and safety against fire hazards.

The "autumtint" brick of the exterior will be typical of many of the old Virginia houses. The roof will be covered with black asbestos shingles of rough texture, both decorative and fireproof. Exterior trim will be painted white. The front entrance and blinds will be painted a vivid moss green.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Editor
Harris C. Allen

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Get-together Meeting March 19

THE 19th of March is not St. Patrick's Day, but it is a day of celebration for all the architects of the Northern Section and must be kept in their engagement books as such. On that date will be held, as is usual at this time of year, a general Northern Section dinner and get-to-gether meeting, preceded by a meeting of the Advisory Council of the Northern Section. You will get direct notices with all the details from the committee, J. K. Ballantine, chairman, assisted by W. E. Baumberger and Otto G. Hintermann. (If the postoffice should lose your notice telephone the State Association Office any morning for the details.)

CALIFORNIA LEADS

We Californians should have a slogan "When you want an idea look to California." Mr. Robert H. Scannel article in the Bulletin of the Michigan Society of Architects discusses the necessity of advertising the architect and educating the public to his function, if he is to survive as an individual and not become a production draftsman for the speculative builder.

His imagination conceives a method whereby it can be done, which, strangely enough, is almost identical with the architects home building services, in operation in Los Angeles and San Francisco for several years. These services, where tried, have shown distinct advantages for the profession. The main difficulty encountered is finding a man who combines the abilities of the salesman with the knowledge of and interest in building and architecture.

It would be much to the advantage of the architects if such services were supported entirely by architects instead of being dependent for support from other sources.

Thus coming back to the question of the willingness of architects to support a sufficient advertising campaign to counteract the propaganda of agencies which indirectly harms the architect by leading away his clientele.

ARCHITECT'S FUTURE

Mr. Kenneth Stowell, editor of the American Architect and Architecture, sees a more cheerful picture of the architect's future, feeling that the more intimate knowledge of architects' experiences by the banks through Federal Housing Administration Insurance is making them more foresighted and that the architectural profession will soon reap considerable benefit therefrom.

LEGISLATIVE MEASURES

At the present time the Northern Section of the State Association of California Architects has approved Assembly Bill 631, Senate Bills 524 (endorsed), 652 and 653 and has expressed opposition to Assembly Bills 868, 1181, 1182, 1183, 2026 and Senate Bills 253 and 900 as these bills now stand. Amendments may considerably alter the picture.

SPEEDY RECOVERY

The secretary is doing his best to write in place of the editor of this page, who is recovering from an operation. The profession, which has benefitted so much from his generous work in its behalf, wishes him a speedy recovery.

STANDING COMMITTEES

The Southern Division, State Association of California Architects, has named the following standing committees for 1937:

Professional Relations—Gordon B. Kaufmann, chairman; George B. Allison, J. E. Allison, Edgar F. Bissantz, Carleton M. Winslow. Financial Relations—Wm. S. McCay, chairman; Breo Freeman, Frederick Kennedy, Jr., Rose O'Connor (Miss), Wm. F. Staunton, Jr. Public Relations—Scott Gerity, chairman; Geo. E. Gable, Arthur C. Munson, Herbert J. Powell, Harold O. Sexsmith, Henry F. Withey. Industrial Relations—Cecil A. Schilling, chairman; Manfred M. DeAhna, C. Hugh Gibbs, Natt Piper, George D. Riddle. Government Relations—Robert H. Orr, chairman; H. C. Chambers, A. M. Edelman, Earl T. Heitschmidt, Paul R. Hunter. Technical Advice—Wm. Mellema, chairman; A. R. Hutchason, Roy C. Mitchell, A. C. Zimmerman.

DELEGATE TO BOSTON

The State Association, a member of the American Institute of Architects, is entitled to one representative to the convention for each 500 dues paying members or fraction thereof. The delegate appointment alternates between the Northern and Southern Sections, depending on the section that has the state president. Lester H. Hibbard, president, has been appointed the delegate to represent the Association at the Convention of the American Institute of Architects to be held at Boston, Mass., in June.

SOUTHERN CALIFORNIA CHAPTER

Interesting reminiscences of past presidents of Southern California Chapter, A. I. A., were heard at the Chapter's February meeting at the University Club, Los Angeles.

A. F. Rosenheim's term of office, from 1904 to 1907, was held at an earlier time than any other living past president. He recalled how, shortly after his transfer from the St. Louis Chapter, he was waited upon in his offices by a committee composed of John Parkinson, Octavius Morgan and John Krempel and invited to become president of the local Chapter.

Prior to this time the Chapter had had seven presidents, all now deceased. They were: A. M. Preston, 1892-93; Octavius Morgan, 1894-95; Theodore A. Eisen, 1895-96; E. H. Fisher, 1897-98; R. B. Benton, 1898-99 and 1902; C. H. Brown, 1900 (also in 1907-08-09), and G. H. Wyman, 1901.

Myron Hunt, 1908, told of an amusing experience he had with one of his clients. Albert C. Martin, 1914-15, spoke of early-day meetings, when the membership was not so large but the percentage of attendance was always good.

J. E. Allison, 1916-17, made a few pertinent remarks and served a large cake which was especially prepared for himself, Myron Hunt and John C. Austin, whose birthdays occur this month. Edwin Bergstrom, 1920-21, called attention to the Institute's scholarship program which is described in the last Octagon. He also spoke of the national convention to be held in Boston the first week in June and plans for the 1938 and 1939 conventions.

Sumner Hunt, 1922-23, recalled that it was just 47 years ago this week that he arrived in Los Angeles and left the train at the old River Station. He also spoke of repeated references he had made to earthquake design during his term of office, and the satisfaction he has gained from giving that subject so much thought.

Another reference to membership and attendance was made by David J. Witmer who spoke of the time when the Chapter stood fourth or fifth in point of size and always had a definite voice in Institute meetings. Mr. Witmer also spoke of the decrease in the percentage of FHA home building projects that are designed by architects. Reginald D. Johnson, Pierpont Davis and Gordon B. Kaufmann assured the present administration of their desire to cooperate in Chapter activities.

Past presidents who were unable to attend the meeting were Sumner Spaulding, H. C. Chambers, S. Tilden Norton, John C. Austin, Frank Hudson and D. C. Allison. Other architects who served the Chapter in the same capacity, but who have since died, were R. B. Young, H. M. Patterson and J. J. Backus.

Certificates of membership in the Institute were presented to Royal W. Lescher, Leslie H. Mahoney, Fred W. Whittlesey, and Richard A. Morse, all of Phoenix, Arizona, and Douglas H. McLellan and H. Scott Gerity of Los Angeles. Associate membership certificates were presented to Charles O. Matcham, William Diest and William S. McCay. The presentation ceremonies were conducted by Carlton M. Winslow.

Ralph C. Flewelling, who presided at the meeting, stated that at the March meeting of the Chapter William Schuchardt would talk on the life of Leonardo da Vinci, noted architect, engineer and painter.

"THE ROMANCE OF FIRE"

"The Romance of Fire" was the topic of a talk by Frank A. Schilling of Los Angeles, before the monthly meeting March 3 of the Structural Engineers Association of Southern California. Mr. Schilling has made a long study of this subject and his talk embraced the story of fire from primitive to modern times, its influence on the mythology, religion, culture and development of man.

President
A. V. Saph, Jr.
Directors
William Adrian
Harold M. Engle
Jesse Rosenwald

STRUCTURAL ENGINEERS ASSOCIATION
OF NORTHERN CALIFORNIA

Vice-President
John J. Gould
Secretary-Treasurer
Alfred P. Fisher
111 Sutter Street
San Francisco
Douglas 1066

ENGINEERS TO MEET IN SACRAMENTO MARCH 19-20

Engineers of California will meet in Sacramento for a general convention March 19 and 20.

Invitations have been sent to all licensed structural engineers, civil engineering societies, with headquarters in San Francisco, Sacramento, Los Angeles, and San Diego, and to the mechanical, mining, and electrical engineers living in central and northern California. In addition to the regular engineering groups known as the National Founder Engineers societies, invitations have been sent to the members of the State Board of Registration for Civil and Structural Engineers and to the engineering staffs of the State Divisions of Architecture, Highways, and Water Resources, and to the larger corporations. All engineers and all engineering societies of the state are welcome to the meetings.

The convention will not be devoted to technical or scientific subjects but is a get-together of engineers for the encouragement of friendship and better understanding among the members of the profession and for the promotion of its welfare.

The main event will be a banquet at the Elks Club on Friday evening, March 19, at which Lieutenant Governor Hatfield, Earl Lee Kelly and other prominent citizens have promised to attend. The principal guest speaker will be Dr. Paul F. Cadman, a well-known consulting economist, whose topic will be "The Engineer as a Factor in Social Stability."

Saturday, March 20, will be devoted to an excursion to an engineering project near Sacramento and to a golf tournament.

STUDENTS VISIT STEEL PLANT

The Associated Engineers of the University of Nevada at Reno, headed by their president, Charles L. Allen, made a two-days' excursion to San Francisco, February 19 and 20, to visit the Bay bridges and other engineering work under the direction of the committee on Public Relations of the American Society of Civil Engineers.

The student engineers arrived by special train and made a stop en route to inspect the steel mills of the Columbia Steel Company at Pittsburg. They were taken through the entire plant and witnessed the manufacture of many steel articles.

Luncheon was served in San Francisco to which were invited the officers of the San Francisco Section of the National Founder Engineering Societies. Included were:

William H. Popert, Chairman, Committee on Public Relations, San Francisco Section, American Society of Civil Engineers; Dr. N. A. Bowers, Past President, San Francisco Section, A.S.C.E.; A. V. Saph, Jr., President Structural Engineers Association of Northern California; Kenneth B. Anderson, Secretary-Treasurer, San Francisco Section of American Society Mechanical Engineers; Worthen Bradley, President, and H. A. Sawin, Secretary, San Francisco Section, American Institute of Mining & Metallurgical Engineers; R. O. Brosemer, Vice-Chairman, San Francisco Section, American Institute of Electrical Engineers; James I. Ballard, Member, Committee on Public Relations, San Francisco Section of American Society of Civil Engineers; Charles L. Allen, President, Associated Engineers, University of Nevada; Edwin F. Levy, Assistant Bridge Engineer, San Francisco-Oakland Bay Bridge; Damian Reynolds, Engineer, Columbia Steel Company.

At the luncheon the visitors were shown a new film picturing the manufacture of steel from the iron ore to the finished rolled beam. Later the students were taken to the South San Francisco plant of the Western Pipe & Steel Company to watch the manufacture of steel pipe, culvert, and fabricated material.

On Saturday they were taken by Peterson's launch to inspect the superstructure of the San Francisco-Oakland Bay Bridge, the Golden Gate Bridge and the San Francisco Bay Exposition.

The student engineers were very much impressed with the large amount of engineering construction work now going on in the San Francisco Bay area.

SOUTHERN CALIFORNIA ENGINEERS

The Structural Engineers Association of Southern California held their annual legislative banquet at the Hotel Clark, Los Angeles, with members of the California State Senate and Assembly as their guests. There was considerable discussion of pending legislation which would vitally affect the design, construction and safety of local school buildings. State Senators Culbert Olsen and Harry Westover, as well as Assemblymen Wilbur Gilbert, Fred Glick, Charles Hunt, John Pelletier, Ben Rosenthal and Frank Waters, entered prominently into the discussions with leading members of the structural engineering profession in Southern California.

SAN FRANCISCO ARCHITECTURAL CLUB

130 Kearny Street, San Francisco
President, HERBERT JOHNSON
Vice-President, LELAND HYDE
Secretary, HOWARD E. HARMAN Treasurer, FREDERICK RUGENS

Trustees
MARIO CIAMPI JACK DEVITT RICHARD E. AUDSLEY

Directors
CLEMENT MULLINS FRANK TRABUCCO A. N. GRANISH

Artists' Work Exhibited

Some interesting work by local artists is being shown in two shows each month at the club quarters. The exhibit early this month included a set of drawings, in a great variety of techniques. Attracting much attention was the charcoal drawing "Windharps"; also richly colored pastels by Just Rasmussen, and Mexican studies and sketches in various media by Mark Milsk and Victor de Wilde.

Atelier Lunches

These are held each Wednesday noon, with the idea of promoting good fellowship, and understanding of common problems. Those interested see Donald Macky-Massier, for details.

Classes Popular

Mr. Morrow's design class and Mr. Chew's engineering class are both well liked and attended.

Entertainment

Old Timers Night is scheduled for March 17 with a stag party at the club quarters. The affair will be open to former members and all architects and their draftsmen. The committee will bring forth quaint entertainment planned by Otto Hintermann.

ST. FRANCIS WOOD RESIDENCE

Dr. Wilbur J. Cox will build a nine room residence in St. Francis Wood from plans by Masten and Hurd, 233 Post Street, San Francisco.

CANNERY BUILDING

The Herschel California Fruit Products Company will erect a $16,000 addition to their cannery at Race and Moorpark, Santa Clara County, from plans by Binder and Curtis, San Jose. The building will be one story brick, 110 by 125 feet.

DUPLEX RESIDENCE

A three story frame and stucco duplex residence will be erected on Macondray Street, San Francisco, for F. W. Kolb, from plans by James H. Anderson, 3147 Claremont Avenue, Berkeley. The ten room building will cost $15,000.

IN NEW OFFICES

Mario Corbett, architect, has established permanent offices in the new building at 72 Third Avenue, San Mateo. Mr. Corbett has a considerable amount of residence work on the boards.

REGIONAL PLANNING CONFERENCE

The Pacific Northwest Regional Planning Commission, composed of representatives of the state planning boards of Idaho, Montana, Oregon and Washington, announces the fourth Pacific Northwest Regional Planning Conference to be held in Boise, Idaho, April 8, 9 and 10.

Boise was selected for this meeting in acceptance of invitation of the Idaho State Planning Board, and in accordance with the tacit policy of the Regional Planning Commission for rotation of regional conferences among the various centers of the region.

The general objectives correspond to those of the previous conferences, held in Portland, Seattle and Spokane. Briefly the general purpose is to bring together the citizens and the official agencies of the region for consideration and appraisal of, and planning for, the use of the region's resources.

The first conference, held three years ago, resulted in the establishment of a large number of public, official and technical contacts and interests which have proven invaluable in subsequent regional, state and local planning work in this region. The succeeding conferences have sought to maintain and advance such contacts, and to widen the interest and participation in, the planning movement.

In furtherance of these objectives, it is desired, in this forthcoming conference, to place even greater emphasis upon the relationships of planning to the public and upon lay aspects of planning, and, consequently and necessarily, somewhat less upon the more technical phases of planning in various fields. At this Fourth Conference, which follows one marked by considerable advances in technical understanding, it is proposed to devote a minimum of time to meeting of groups and committees interested in single and more or less specialized subjects, and a maximum of time to general discussion.

The conference is being organized to provide for the presentation of the broader phases and interrelationships of planning in its various functional and geographic subdivisions, and to place the greatest emphasis upon national, regional, state and local planning, considered as an integrated whole.

VISIT CHAPMAN PARK HOTEL

Southern California Chapter, The American Institute of Architects, held its March meeting at the Chapman Park Hotel in Los Angeles. The meeting took place in the hotel's recently completed Pueblo Oratorio. An illustrated paper on the life of Michael Angelo Buonarotti was presented by William H. Schuchardt. The Chapter will resume its Honor Awards this year.

PERSONAL

William Decker Holdredge and Herbert C. Riesenberg have opened offices at 553 South Western Avenue, Los Angeles, for the practice of architecture. Both were formerly in the office of Paul R. Williams.

With the Architects

INSTITUTE CONVENTION

The sixty-ninth convention of The American Institute of Architects will be held in Boston, Massachusetts, on Tuesday, Wednesday, Thursday, and Friday, June 1, 2, 3, and 4.

Once more the board of directors has decided in favor of a four-day convention, rather than one of three days.

The purpose is to give sufficient time in the afternoons to view the New England scene, at least that part of it within reasonable distance of Boston.

As the convention this year will be held in the first week of June, it is recommended that the Chapters reserve their April or early May meetings for convention business.

Approximately forty-five years ago, the twenty-fifth convention was held in Boston. The president of the Institute who presided at that convention was Richard Morris Hunt, of New York, and the secretary was Dankmar Adler, of Chicago. At the time of this convention Benjamin Harrison was President of the United States.

INSTITUTE SCHOLARSHIP

Scholarships for advanced study, research and travel have been established by the American Institute of Architects, which has received $104,000 to promote higher education in architecture from the estate of the late Edward Langley, architect, of Scranton, Pa.

The awards, which will not exceed ten each year, are open to any architectural draftsman, teacher of architecture, or graduate student who is a citizen of the United States or of Canada and who gives evidence satisfactory to the Institute of his character, ability, purpose and need.

More than sixty architectural schools and hundreds of architects' offices will be drawn upon for candidates, according to Albert Evers, Regional Director. Selections will be made from the schools by the Institute's committee on education, headed by Dean William Emerson, of the Massachusetts Institute of Technology, and from the offices by the regional directors of the Institute. Final grants will be determined by the Institute's investment committee, of which Edwin Bergstrom, of Los Angeles, is chairman. The 1937 awards will be announced on September 1.

INTERNATIONAL CONGRESS OF ARCHITECTS

The International Congress of Architects will be held in Paris the week of July 17, this year. The meetings will take place in the Exposition grounds and delegates will be given special privileges and facilities.

For further information, address the secretary of the Institute, at The Octagon, Washington, D. C.

KERN COUNTY WORK

Franklin and Kump have become associated for the practice of architecture with offices in Fresno and Bakersfield. This firm is completing drawings for a concrete store building in Bakersfield for Miss Alice Wiseman and an auto sales and service building, also in Bakersfield, for A. H. Karpe. The cost is estimated at $20,000.

HOTEL ADDITION

A substantial addition to the Mar Monte Hotel, Santa Barbara, is planned by the owners, the Allied Properties Company of Los Angeles. The architect is Gardner A. Dailey, 210 Post Street, San Francisco. Besides 50 rooms there will be 18 baths and four kitchens.

TUBERCULOSIS WARD BUILDING

From plans by Russell G. De Lappe of Oakland, a two story reinforced concrete and frame tuberculosis ward building will be erected at the county hospital, Modesto. Funds amounting to approximately $65,000 are available.

TO REMODEL BANK BUILDING

Plans have been completed by H. H. Winner of Ross, Marin County, for remodeling the First National Bank at Merced. The exterior will be completely modernized and all new equipment will be installed. The improvements will cost $30,000.

SAN MATEO GRAMMAR SCHOOL

Thomas M. Edwards, 9 Geary Street, San Francisco, has been commissioned to prepare plans for an eight class room building at San Mateo for the Peninsula Avenue Grammar School District. The estimated cost is $50,000.

$12,000 SAN FRANCISCO RESIDENCE

St. Francis Wood, San Francisco, will have a new $12,000 house from plans by William G. Merchant, Russ Building. The owner is A. J. Callahan. There will be eight rooms, three baths and double garage.

BAKERSFIELD SCHOOL ADDITION

Charles H. Bigger, architect of Bakersfield, has completed plans for a $45,000 four class room addition to the Horace Mann School building at Bakersfield.

PORTUGUESE CLUB HOUSE

The Portuguese Society of Los Banos will spend $25,000 on a two story frame and stucco club house with wood trusses and shingle roof. Besides club rooms, there will be an auditorium, kitchen and dining room.

BAY REPRESENTATIVE FOR CELOTEX

L. J. Hackett, manager of the West Coast Division of the Celotex Corporation, has appointed C. P. Farewell of 441 Merritt Avenue, Oakland, architects' representative for the Celotex Corporation in San Francisco and the East Bay. The past year Mr. Farewell has been working in the central and northern part of California where increased use of insulation has kept pace with extensive building programs. Mr. Farewell's duties will be to give as much service and help as possible to the architects for the entire Celotex line. He is a native of California and a graduate of Stanford University. His San Francisco office is at 675 Townsend Street.

W. E. COFFMAN BUSY

The office of W. E. Coffman, architect, Forum Building, Sacramento, is preparing sketches for a $160,000 Union High School plant at Fort Bragg, California. Construction is expected to start about June 1.

Sketches have been completed by Mr. Coffman for a new grammar school in Auburn for the Placer Union Grammar School District.

Plans are being completed for the Ralph Moss residence in Dixon, to cost $16,500, and a residence in Davis for R. R. Mattley.

Plans have also been completed for a residence for Mr. and Mrs. Ernie Zebal in Woodland, California, to cost $8,500.

ARCHITECT'S NAME OMITTED

In the attractive advertisement of N. Clark & Son for January the name of Donald E. Jaeckle was inadvertantly omitted as one of the architects of the Mill Valley city hall and fire house. Walter C. Falch was the other architect associated with Mr. Jaeckle in the design of the building.

SPANISH HOUSE

A nine room Spanish style residence has been designed for Dr. G. A. Wald by Architect Albert F. Roller, Crocker First National Bank Building, San Francisco. The house will be built in Parkway Terrace, San Francisco, at an estimated cost of $18,000.

PROVISIONAL CERTIFICATES

At a recent meeting of the State Board of Architectural Examiners, Northern Division, provisional certificates to practice architecture in California were issued to Charles S. Pope, 1932 Cabrillo Street, San Francisco, and Alfred C. Williams, 5931 Monzal Avenue, Oakland.

MILLER AND WARNECKE BUSY

New work in the office of Miller and Warnecke, architects of Oakland, includes an early California residence at Walnut Creek, two houses in Alameda County and a store building.

THE TEST OF A BUILDING

You don't need to be a seer to prophesy success for the architect whose building plans are arranged for the comfort and convenience of the human beings who will occupy the buildings.

One of the most important considerations in planning this comfort and convenience is the electrical service. The structure may be of any architectural period but the electrical service must be modern.

Wiring must be adequate, not only for the immediate lighting and appliance demands but there must be provision for a reasonable amount of additional equipment.

Adequate wiring provision at the time of building insures satisfaction under the real test of occupancy.

Insure your future by giving your clients electrical adequacy that will cause them to speak highly of your service as an architect.

PACIFIC COAST ELECTRICAL BUREAU

447 Sutter Street SAN FRANCISCO

601 W. 5th Street LOS ANGELES

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

Note—Lumber is scarce and prices vary on account of the strike.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.

Brickwork—

Common, $40 to $45 per 1000 laid, (according to class of work).

Face, $75 to $90 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.10 lin. ft.

Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)

Brick Veneer on frame buildings, $ .75 sq. ft.

Common f.o.b. cars, $14.00 job cartage.
Face, f.o.b. cars, $45.00 to $50.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 84.00 per M
4x12x12 in.	94.50 per M
6x12x12 in.	126.00 per M
8x12x12 in.	225.00 per M

HOLLOW BUILDING TILE (f.o.b. job)
carload lots.

8x12x5½	$ 94.50
6x12x5½	73.50

Discount 5%.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, 500 ft. roll	5.00
Brownskin Pro-tect-o-mat, 1000 ft. roll	10.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft
Sash cord com. No. 8	1.50 per 100 ft
Sash cord spot No. 7	1.90 per 100 ft
Sash cord spot No. 8	2.25 per 100 ft

Sash weights cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45 per ton.

Concrete Work (material at San Francisco bunkers)—Quotations below 2000 lbs. to the ton, $2.00 delivered.

No. 3 rock, at bunkers	$1.80 per ton
No. 4 rock, at bunkers	1.75 per ton
Elliott top gravel, at bunkers	2.10 per ton
Washed gravel, at bunkers	2.10 per ton
Elliott top gravel, at bunkers	2.10 per ton
City gravel, at bunkers	1.75 per ton
River sand, at bunkers	1.80 per ton
Delivered bank sand	1.20 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND

Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.

Cement, 2.50 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $3.25 per bbl.
Cement (f.o.b. Job, Oak.) $3.25 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Calaveras White ..... $6.00 per bbl.
Medusa White ..... $8.00 per bbl.
Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
4½ inch Concrete Basement floor ..... 14½c to 16c per sq. ft.
2-inch rat-proofing ..... 7½c per sq. ft.
Concrete Steps ..... $1.50 per lin. ft.

Damproofing and Waterproofing—

Two-coat work, 15c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $7.00 per outlet, including switches.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot balcony, with stairs, $85.00 per balcony, average.

Floors—

Composition Floors—18c to 35c per sq. ft. In large quantities, 16c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$120.00 M ft
1 1-16x2¼" T & G Maple	132.00 M ft
⅞x3½ sq. edge Maple	140.00 M ft.

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq Ed.
Clr. Qtd. Oak	$200.00 M	$150.00 M	$180 M
Sel. Qtd. Oak	140.00 M	120.00 M	135 M
Clr. Pla. Oak	135.00 M	107.00 M	120 M
Sel. Pla. Oak	120.00 M	88.00 M	107 M
Clear Maple	140.00 M	100.00 M	
Laying & Finishing	13c ft.	11 ft.	10 ft.

Wage—Floor layers, $7.50 per day.

Glass (consult with manufacturers)—

Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 35c per sq. foot
Obscure glass, 26c square foot.
Note—Add extra for setting

Heating—

Average, $1.90 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site).

No. 1 common	$38.00 per M
No. 2 common	34.00 per M
Selection O. P. common	39.00 per M
2x4 No. 3 form lumber	28.00 per M
1x4 No. 2 flooring VG	65.00 per M
1x4 No. 3 flooring VG	55.00 per M
1x6 No. 2 flooring VG	65.00 per M
1¼x4 and 6, No. 2 flooring	70.00 per M

Slash grain—

1x4 No. 2 flooring	$50.00 per M
1x4 No. 3 flooring	40.00 per M
No. 1 common run T. & G.	35.00 per M
Lath	8.00 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.10 per bdle.
Redwood, No. 2	.90 per bdle.
Red Cedar	1.00 per bdle.

Millwork—

O. P. $110.00 per 1000. R. W., $115.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $8.00 and up, each.
Doors, including trim (five panel, 1¾ in Oregon pine) $6.50 each.
Screen doors, $4.00 each.
Patent screen windows, 25c e sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $6.50 each.
Dining room cases, $7.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work ..... 35c per yard
Three-coat work ..... 45c per yard
Cold Water Painting ..... 12c per yard
Whitewashing ..... 4c per yard
Turpentine, 80c per gal., in cans and 75c per gal. in drums.
Raw Linseed Oil—80c gal. in bbls.
Boiled Linseed Oil—85c gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	10¾c
500 lbs. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	10¾c
500 lb. and less than 1 ton lots	11c
Less than 500 lb. lots	11½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net. wt.	12½c
500 lb. and less than 1 ton lots	12½c
Less than 500 lb. lots	13c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.75 lineal foot
12-inch	2.00 lineal foot

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.75
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	$1.00
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.30
Ceilings with ¾ hot roll channels metal lath	.75
Ceilings with ¾ hot roll channels metal lath plastered	1.75
Shingle partition ¾ channel lath 1 side	.85
Single partition ¾ channel lath 2 sides 2 inches thick	2.75
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	3.00

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.20
2 coats Calaveras cement, brick or concrete wall	1.35
3 coats cement finish, No. 18 gauge wire mesh	1.50
3 coats Calaveras finish, No. 18 gauge wire mesh	2.00

Wood lath, $7.50 per 1000.
2.5-lb. metal lath (dipped) ..... .17
2.5-lb. metal lath (galvanized) ..... .20
3.4-lb. metal lath (dipped) ..... .22
3.4-lb. metal lath (galvanized) ..... .28
¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations. $13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply $50.00 per M.
Hydrate Lime, $19.50 ton.
Plasterers Wage Scale ..... $1.25 per hour
Lathers Wage Scale ..... 1.25 per hour
Hod Carriers Wage Scale ..... 1.10 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $65.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $6.50 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.00 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 to $60.00 per sq. laid according to color and thickness.

Sheet Metal—

Windows—Metal, $2.00 a sq. foot.
Fire doors (average), including hardware $2.00 per sq. ft.

Skylights—

Copper, 90c sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Steel—Structural

$110 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $80 to $90 per ton cost of steel, average building, $95.00.

Steel Reinforcing—

$100.00 per ton, set, (average).

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00, Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, Etc.—(See Dealers)

Asphalt Tile—18c to 28c per sq. ft. installed.

SAN FRANCISCO BUILDING TRADES WAGE SCALE

Recommended by the Impartial Wage Board, June 18, 1936. Effective July 1, 1936

This scale is based on an eight-hour day and is to be considered as a minimum and employees of superior skill and craft knowledge may be paid in excess of the amounts set forth herein. This scale applies only to work on buildings and does not include inside or shop workers.

CRAFT	Journeymen Mechanics
Asbestos Workers	$ 8.00
Bricklayers	12.00
Bricklayers' Hodcarriers	8.00
Cabinet Workers (Outside)	9.00
Carpenters	9.00
Cement Finishers	9.00
Cork Insulation Workers	9.00
Electrical Workers	10.00
Electrical Fixture Hangers	8.00
Elevator Constructors	10.40
Engineers, Portable and Hoisting	9.00
Glass Workers (all classifications)	8.50
Hardwood Floormen	9.00
Housesmiths, Architectural Iron (outside)	9.00
Housesmiths, Reinforced Concrete, or Rodmen	9.00
Iron Workers (Bridge and Structural)	11.00
Iron Workers (Hoisting Engineers)	11.00
Laborers (six-day week)	$ 5.50
Lathers, Channel Iron	10.00
Lathers, all others	9.00
Marble Setters	10.00
Millwrights	9.00
Mosaic and Terrazzo Workers (outside)	9.00
Painters	9.00
Painters, Varnishers and Polishers (outside)	9.00
Pile Drivers and Wharf Builders	9.00
Pile Drivers Engineers	10.00
Plasterers	12.00
Plasterers' Hodcarriers	8.00
Plumbers	10.00
Roofers (all classifications)	8.00
Sheet Metal Workers	9.00
Sprinkler Fitters	10.00
Steam Fitters	10.00
Stair Builders	9.00
Stone Cutters, Soft and Granite	9.00
Stone Setters, Soft and Granite	12.00
Stone Derrickmen	9.00
Tile Setters	10.00
Tile, Cork and Rubber	9.00
Welders, Structural Steel Frame on Buildings	11.00
Welders, All Others on Buildings	9.00
Dump Truck Drivers, 2 yards or less	6.00
Dump Truck Drivers, 3 yards	6.50
Dump Truck Drivers, 4 yards	7.00
Dump Truck Drivers, 5 yards	7.00
Dump Truck Drivers, 6 yards	7.50
Truck Drivers of Concrete Mixer Trucks:	
2 yards or less	6.50
3 yards	7.00
4 yards	7.50
5 yards	7.50
6 yards	8.00

GENERAL WORKING CONDITIONS

1. Eight hours should constitute a day's work for all crafts, except as otherwise noted.
2. Where less than eight hours are worked pro rata rates for such shorter period should be paid.
3. Plasterers' Hodcarriers, Bricklayers' Hodcarriers, Roofers' Laborers and Engineers, Portable and Hoisting, shall start 15 minutes before other workmen, both at morning and at noon.
4. Five days, consisting of not more than eight hours a day, on Monday to Friday, inclusive, should constitute a week's work, except for building laborers.
5. The wages set forth herein should be considered as net wages.
6. Except as noted the above rates of pay apply only to work performed at the job site.
7. Transportation costs except for intra-city fares should be paid by contractor.
8. Traveling time in excess of one hour each way should be paid for at straight time rates.
9. Overtime should be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter should be paid double time. Saturdays (except for Laborers), Sundays and Holidays from 12 midnight of the preceding day, should be paid double time. Irrespective of starting time, overtime for Cement Finishers should not commence until after eight hours of work, except that after 12 midnight overtime for cement finishers should be paid at the rate of time and one-half for the first four hours and double time thereafter. Shift work for cement workers should be subject to the provisions of paragraph 11.
10. On Saturday Laborers should be paid straight time up to eight hours. Overtime rates should be paid as specified in paragraph 9.
11. Where two shifts are worked in any twenty-four hours, shift time should be straight time. Where three shifts are worked, eight hours' pay should be paid for seven hours on the second and third shifts.
12. All work, except as noted in paragraph 13, shall be performed between the hours of 8 A. M. and 5 P. M.
13. In emergencies, or where premises cannot be vacated until the close of business, men then reporting for work should work at straight time. Any work performed on such jobs after midnight should be paid time and one-half up to four hours of overtime and double time thereafter.
14. Recognized holidays to be: New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day, Christmas Day.
15. Men ordered to report for work, for whom no employment is provided should be entitled to two hours' pay.
16. This award should be effective in the City and County of San Francisco.

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1. **It provides four times the bracing strength of ordinary wood sheathing.**
2. **It affords far more insulation than lumber.**
3. **It is waterproofed all the way through, every fibre being asphalt treated during manufacture.**
4. **It eliminates open joints and knotholes.**
5. **It lowers application costs and eliminates waste.**
6. **One solid piece $^{25}/_{32}$" thick it is easily applied.**
7. **It is moderately priced.** ©1937.I.CO.

INSULITE LOK-JOINT LATH

Bing Crosby's new Los Angeles home (shown below and at right) naturally boasts Lok-Joint Lath on the walls and ceilings, because—

1. **It effectively insulates — keeps out heat, absorbs sound.**
2. **It is easily and rapidly applied.**
3. **It eliminates lath marks on walls and ceilings.**
4. **It assures freedom from plaster cracks.**
5. **It is moderately priced, its advantages far outweighing its cost.**

Bing Crosby's New 24-Room Los Angeles Home, Insulated with Lok-Joint Lath (See Left)

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For further information see Sweet's Catalog No. 22, Section 10

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COPPER ROOFS

Architects are showing interest in a new type of roof, features of which are attractive appearance, reasonable cost and durability. The word NEW may be qualified since copper, of which the roof is made, is known to have been used for centuries in roofing many of the ancient palaces and temples of the old world.

The newness of this much talked about copper roof is its adaptability to most any type or style of building. Furthermore, its sponsors say it possesses individuality which the discriminating architect appreciates. Added interest is manifested in the roof because of its improved appearance from age. From a dull gold it gradually changes to a moss green, a color that effectually blends with the average surroundings of a home.

This "double lock" copper roof is adaptable to any size house, is light weight and consequently does not require an expensive supporting structure. It is easily and quickly installed and lasts a life time. The copper is manufactured by the Anaconda Copper Company. The raw material is shipped here and cut into workable form for all types of roofing by the Copper Roofs Company of California, W. S. Yard, president. The plant is at 2295 San Pablo Avenue, Berkeley, and there are distributing yards in San Francisco, Oakland and Sacramento.

A dozen installations are now being made in Northern California cities, including San Rafael, Sacramento, Walnut Creek, Hillsborough, Piedmont, Oakland and St. Francis Wood, San Francisco. A large industrial building in Salinas, California, is included in recent contracts closed by the company.

STATE BUILDING

The State of California has taken bids for the construction of a reinforced concrete natatorium at the California Polytechnic School, San Luis Obispo. The plans were prepared by State Architect Geo. B. McDougall.

CALIFORNIA COLONIAL DWELLING

Architect Leo J. Sharps of Burlingame has completed plans for an $11,000 home in San Mateo for Oscar L. Cavanagh. The design is California Colonial.

DEPARTMENT STORE ADDITION

Hale Bros. will erect a one story addition to the Whitthorne and Swan Building at 11th and Washington Streets, Oakland, from plans by Geo. de Colmesnil, De Young Building, San Francisco.

WESTON RESIGNS; DAVIS APPOINTED

Eugene Weston, Jr., architect member of the Los Angeles Municipal Art Commission, has resigned and Architect Pierpont Davis has been named his successor. Mr. Weston now lives outside the city making him ineligible to remain on the commission. He, however, retains his business office in Los Angeles.

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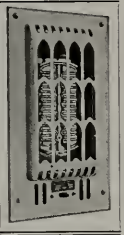

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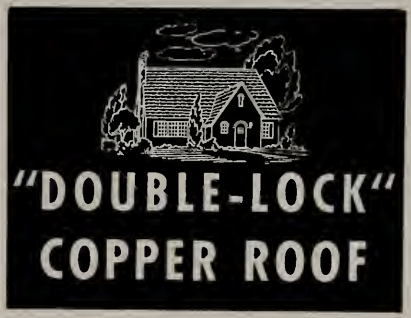

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An International Congress of Architects will be held in Paris, during the week of July 17. It will be one of many similar professional meetings held in connection with the Exposition des Arts et Techniques on the grounds of the Exposition and in the halls provided for such purpose.

Architects in France have requested their Government to invite all countries to send delegates to the Congress. Consequently all who attend are in a sense the guests of the French Government, which will offer official entertainment and extend other courtesies.

During the week of the Congress its business sessions will be so organized as to allow ample time to the delegates for seeing the Exposition, and for taking part in all the entertainments and excursions that will be arranged for the Congress by the French Architectural Societies who will be, after the Government, the hosts of the occasion.

This Congress, while similar to a meeting of an association of Architects everywhere, differs in that the delegates, as representatives of their several countries, have an official standing, and in fact, are appointed by the Federal Government. On returning to this country the chairman of the delegation is required to make a report to the State Department.

Subjects for discussion at the business sessions will include:

1. Professional—Circumstances under which architects and contractors may fully collaborate.

2. Technical—Influence of the use of local materials upon the form, the economy and the appearance of structures.

3. Education (a)—Fundamental Training: The degree of general culture necessary in order to undertake the study of architecture.

(b)—Post-Graduate Education, Probation: Various technical studies required for fitness to practice the profession of architecture.

4. City Planning—Sanitation of old towns, and rehabilitation of urban districts.

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(a)—Studied at the Congress in Rome, September, 1935: "The Evolution of the Profession."

(b)—Referendum—"Existing legislation concerning the responsibility of the architect to individual clients and to the State."

CALIFORNIA AUTOMOBILE STATISTICS

Twenty-seven foreign countries, four distant United States possessions and territories, and the forty-eight States of the Union were represented in the 252,727 non-resident cars that entered California in 1936.

This represents an increase of more than 18 per cent over the 1935 total of 213,428, according to Director Ray Ingels of the Department of Motor Vehicles. The number of persons in the cars was given as 757,167 last year, an increase of 23 per cent over the 1935 total of 615,728.

Arizona headed the list with 19,345 cars, followed by Oregon with 17,300; Washington was third with 14,451, and Texas was fourth, when 12,551 automobiles entered from that State.

Delaware sent fewer cars than any other State—eighty-four—being surpassed by the Territory of Hawaii, 408, and the Republic of Panama, 116.

Canada led all foreign countries with 3,465. Mexico was second with 371. Two cars bearing Australian plates traveled half way round the world to reach California. Two also came from India.

Nonresident permits were issued to one or more visitors from each of the following distant points: Argentine, Austria, Chile, China, Costa Rica, Cuba, Czeckoslovakia, Dutch West Indies, El Salvador, England, France, French Indo-China, Germany, Guam, Honduras, Jamaica, Philippines, Venezuela, and the West Indies.

ARC WELDING COMPETITION

To stimulate intensive study of arc welding, $200,000 will be distributed by the Arc Welding Foundation to winners of 446 separate prizes for papers dealing with this subject as a primary process of manufacture, fabrication or construction in eleven major divisions of industry.

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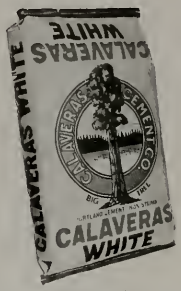

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ceive not less than $13,700. Other prizes range from $7,500 to $100—the latter sum to be awarded each of 178 contestants who receive no other prize, but whose papers are adjudged worthy of honorable mention.

In order to assure equal competitive opportunity, similar prizes are offered in the eleven major divisions of industry covered by the contest. These divisions are: automotive, aircraft, railroad, watercraft, structural, furniture and fixtures, commercial welding, containers, welderies, functional machinery and industrial machinery.

Wide diversification of awards is effected by further dividing each major industry into various subclassifications; with entrants required to select in advance the particular sub-classification to which their papers will relate.

When accepted by the jury of awards as properly classified, each paper will be in competition, in its particular sub-classification, for five initial prizes established for that group. These are worth, respectively, $700, $500, $300, $200 and $150.

From among these sub-classification winners, four papers will be selected in each major industry to receive additional prizes of $3,000, $2,000, $1,000 and $800. Thus these 44 semi-finalists will be awarded a total of $74,800.

In addition, the semi-final winners in the various divisions will be considered as possible recipients of the four main prizes. These range from $10,000 to $3,500, with the winner of the grand prize receiving not less than $13,700 for his paper.

In the structural field, twenty-four prizes are offered; with a total value of $14,200. Four subclassifications are established in this division; namely, buildings, bridges, houses and miscellaneous.

Contestants, it was announced, must have papers in duplicate on file with the secretary of the Foundation, at Cleveland, Ohio, not later than June 1, 1937. Prospective entrants should communicate promptly with Foundation Secretary A. F. Davis, P. O. Box 5728, Cleveland, for complete details of the rules and conditions covering awards.

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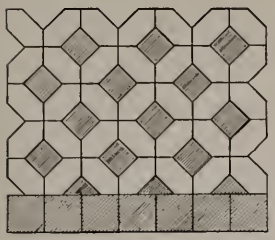

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SACRAMENTO VALLEY WATER PROJECT

Preliminary engineering work has been completed on the northern section of the Central Valley project in California, and the storage reservoir on the Sacramento River will be constructed at the Kennet dam site.

The Consulting Board of Engineers, following its December inspection of the project, reported that a satisfactory storage dam could be constructed at any of three sites investigated by the Bureau of Reclamation in the upper Sacramento Valley. These sites were at Table Mountain and Kennett on the Sacramento River and at the Baird site on the Pit River.

"The Bureau of Reclamation engineers have found that the Kennett site is unquestionably a safe site for a dam of a height sufficient to provide the storage that will be necessary," Mr. Page said. "The exact height of the dam to be constructed has not been determined; however, this will not delay the start of construction. The dam will at least be of a height sufficient to provide 3,000,000 acre-feet of storage."

"It is gratifying," Secretary Ickes said, "that the complex preliminary work on the great Central Valley project is now drawing to a close; with the way now apparently cleared for the start of work in two divisions of the project, I anticipate that construction to proceed rapidly."

The main line of the Southern Pacific Railroad between Sacramento and Oregon runs through the Kennett reservoir site. This line must be relocated at a higher elevation. Surveys for this relocation have been completed by the Bureau of Reclamation. Negotiations necessary to the relocation of the railroad are now in progress between the California State Water Authority and the railroad. As soon as they are completed contracts will be advertised by the Bureau for this work.

Comparative studies of the alternative sites for the large storage reservoir on the Sacramento River, which is the key to the Central Valley project, indicate that the Kennett site is superior from an economic standpoint to the others.

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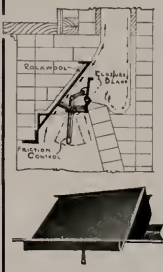

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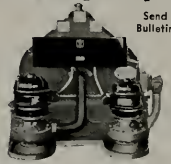

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*HORABIN OIL & BURNER Company, 234 Hamilton Avenue, Palo Alto.
MARIN OIL & BURNER Company, 618 Sir Francis Drake Blvd., San Anselmo, Calif.

OIL AND GASOLINE

*STANDARD OIL Company of California, 225 Bush Street, San Francisco.
*SHELL OIL Company, Shell Building, San Francisco.

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*U. S. GYPSUM Company, Architect's Building, Los Angeles.

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*M. J. KING, 231 Franklin Street, San Francisco.

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HEINSBERGEN DECORATING Co., 401 Russ Building, San Francisco.
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*RAPHAEL Company, 270 Tehama Street, San Francisco.

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*SCOTT Company, 243 Minna Street, San Francisco.

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